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ELEMENTARY REHABILITATION NURSING CARE; A MANUAL FOR NURSES AND ANCILLARY WORKERS IN NURSING HOMES, HOSPITALS, CONVALESCENT FACILITIES, AND PUBLIC HEALTH AGENCIES. PUBLIC HEALTH SERVICE PUBLICATION NO. 1436.

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This guide for teacher and student use presents a comprehensive program of physical rehabilitation for aged and physically disabled patients. Developed by the Public Health Nursing Section, the manual was tested by state health department personnel and persons doing inservice teaching in their respective nursing homes. The program is designed to provide nurses and ancillary workers with a better understanding of the physical, mental, and social needs of patients for the improvement of nursing care, patient morale, and job satisfaction. The first section, "Basic Philosophy and Principles of Rehabilitation Nursing," includes principles of rehabilitation for nursing homes, the nursing home team, rehabilitation nursing, and the relationship of the activities and the rehabilitation nursing areas. The second section, "Principles and Techniques of Rehabilitation Nursing Procedures," covers body alignment, introduction to exercises, normal body motions, passive range of motion exercises, transfer activities, ambulation activities, activities of daily living, skin care, personal hygiene, bowel and bladder training, and general principles in speech and hearing problems. The third section covers "Application of Rehabilitation Nursing in a Specific Disease," including specific care for hemiplegia. Extensive diagrams illustrate techniques and objectives of treatment. Reference resources are listed in the appendix. (JK)

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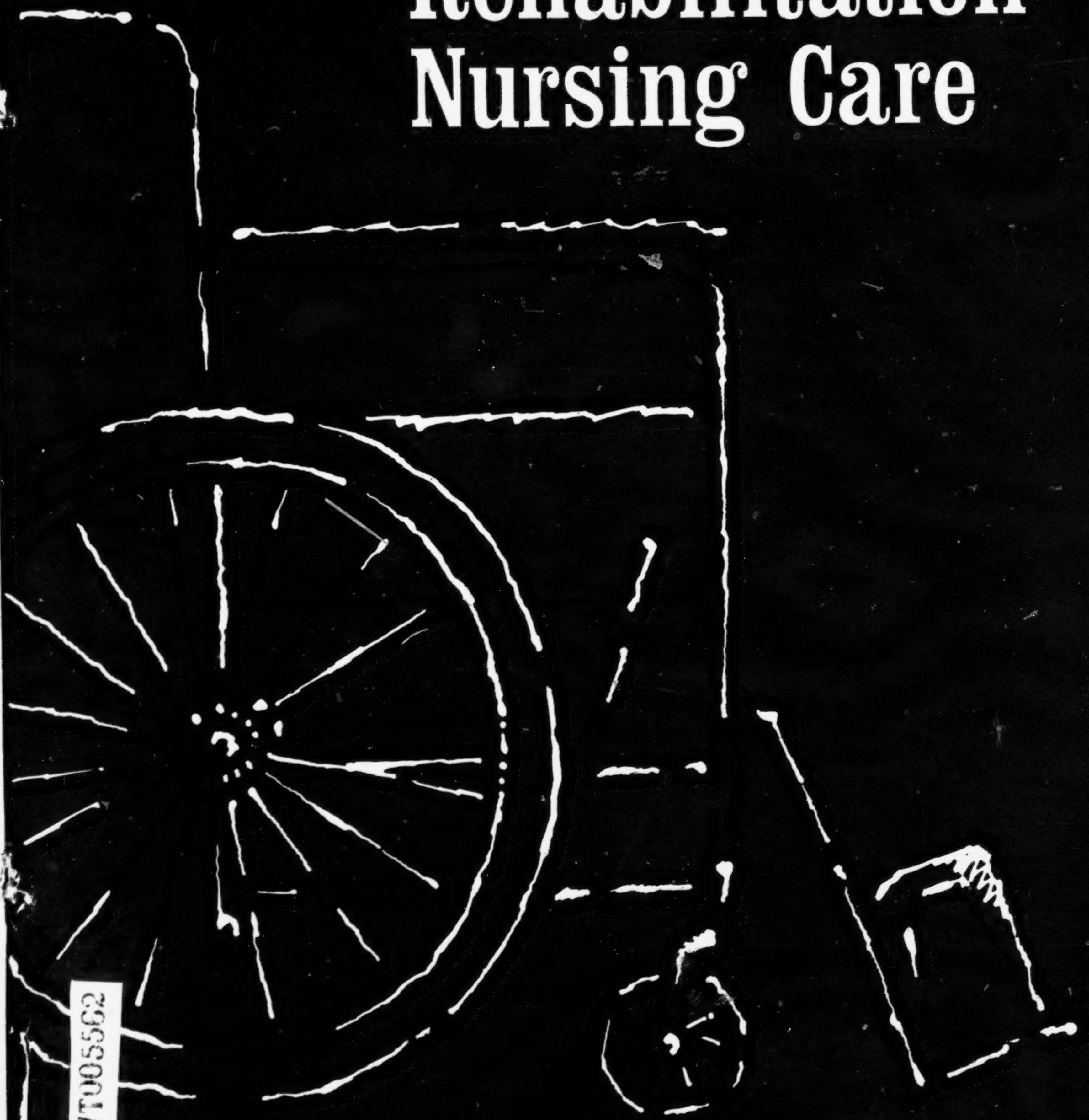
Rehabilitation Nursing Care



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1 *Elementary*
Rehabilitation Nursing Care

A manual for nurses and ancillary workers in nursing homes, hospitals, convalescent facilities, and public health agencies.

Prepared by
Public Health Nursing Section
3 Colorado State Dep~~artmen~~t of Public Health

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U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
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Foreword

Communicating nursing knowledge that will contribute to the physical and emotional health of people receiving nursing services is an important function of the Division of Nursing. For this reason we have published *Elementary Rehabilitation Nursing Care,* a manual which presents a comprehensive program of physical rehabilitation for the aged and patients afflicted with a physical disability. The manual should be particularly helpful in encouraging those who provide nursing services to involve patients in their own care. The provisions for nursing services under recent health legislation, particularly Medicare, will increase the demand for this kind of rehabilitative care. This is therefore a timely publication, and we hope it will be a useful guide for nursing personnel engaged in caring for patients, especially those in nursing homes.

Jessie M. Scott

Chief
Division of Nursing

Patient's Bill of Rights

Receive adequate care.

Retain his dignity as a human being.

Achieve the utmost degree of independence of which he is capable.

Attain his maximum potential.

Retain the respect of others.

Be a part of his community.

Retain his rights as a citizen.

Anonymous

Preface

This manual is a guide for training nursing personnel in the fundamentals of rehabilitation nursing care. Developed by the Public Health Nursing Section of the Colorado State Department of Public Health, the manual is part of a project designed to improve quality of care in nursing homes. The project determined: one, the extent of rehabilitation which could be maintained by nursing personnel and two, the rehabilitative nursing which could be taught on an inservice education basis.

The manual was tested by the State Health Department personnel and persons doing inservice teaching in their respective nursing homes. The education program it describes is based on practical and effective principles of rehabilitation requiring relatively inexpensive equipment and a minimum of personnel. The program provides nursing personnel with a better understanding of the physical, mental, and social needs of patients for the improvement of nursingcare, patient morale, and job satisfaction for the nursing staff.

Acknowledgment is made to the many authorities in the field of rehabilitation whose books, articles, and pamphlets served as sources for the information, philosophy, and techniques used in the manual. Although the content of the manual is not original, the manner in which it has been assembled and presented is the product of two years' experience in the project. The nursing personnel and patients in the participating nursing homes made valuable contributions to the formulation of material for the manual.

Acknowledgment is also made for funds provided by the Chronic Disease Section of the Colorado State Department of Public Health which made possible the demonstration project and preparation of this manual. Recognition is made of the contributions of Colorado State Department of Public Health Personnel: Eleanor M. McKnight, R.N., M.P.H., Nursing Homes Consultant, who has been Project Director; Virginia L. Gordon, O.T.R., Occupational Therapy Consultant; and Charles F. Branch, R.P.T., Physical Therapy Consultant.

Contents

Page

SECTION I:

BASIC PHILOSOPHY AND PRINCIPLES OF REHABILITATION NURSING

Principles of Rehabilitation for Nursing Homes 1
Nursing Home Team 3
Rehabilitation Nursing 7
Relationship of the Activities and the Rehabilitation Nursing Areas..... 9

SECTION II:

PRINCIPLES AND TECHNIQUES OF REHABILITATION NURSING PROCEDURES

Body Alignment 13
Introduction to Exercises 19
Normal Body Motions 21
Passive Range of Motion Exercises 33
Transfer Activities 39
Ambulation Activities 45
Activities of Daily Living 59
Skin Care 67
Personal Hygiene 68
Bowel and Bladder Training 71
General Principles in Speech and Hearing Problems 74

SECTION III:

APPLICATION OF REHABILITATION NURSING IN A SPECIFIC DISEASE

Specific Care for Hemiplegia 79

APPENDIX:

References 98
Resource Material for Nursing Home Staff 99

Section I

Basic Philosophy and Principles of Rehabilitation Nursing

Principles of Rehabilitation for Nursing Homes

Rehabilitation means a variety of things to many people. For purposes of this manual, rehabilitation means the care given to chronically ill, disabled, and aged patients in nursing homes to help them do more for themselves and become less dependent upon others.

BASIC PRINCIPLES

- See the patient as a *whole* person.
- Stress the patient's abilities.
- Keep the patient active.
- Start treatment early.

DISCUSSION OF PRINCIPLES

See the patient as a whole person. Seeing the patient as a *whole* person means understanding him as an individual, as a member of his family and of the community. No two individuals are exactly alike; each has his own likes and dislikes, and his own wants and fears. The kind of person who can help patients in a nursing home is one who likes older people, understands their demands, senses their needs, and is tolerant of their slowness and forgetfulness. Kindness and patience with understanding will save nursing personnel from making the frequent mistake of treating the older patient like a child. To have the patient's cooperation, the nursing staff must show him that he is still important and give him a feeling of security by letting him know someone cares. If the nursing personnel honestly care, the patient will be the first to recognize it. When they offer him hope and help him accept and live with his physical condition, they encourage him to become less dependent. Their concern should be not only with the illness of the patient, but about the person who is the patient.

Stress the patient's abilities. It is easy to recognize what the patient *cannot* do for himself. Part of the rehabilitation procedure is to recognize the things the patient *can* do without help. It is important to emphasize the things the patient can do rather than those he cannot do; to show the patient how to do things for himself that he has not done for a long time. As nursing personnel gain experience with rehabilitation techniques, they will find it easier to teach or remind the patient that he *can* still do many things and is a valuable member of his family, his social group and the community.

Keep the patient active. The fact that activity strengthens and inactivity wastes is of prime importance. When the patient uses his own muscles, he becomes stronger and can begin to assume more responsibility for his own care and activities. As the patient does more for himself, he makes use of his mind as well as his body. He becomes more alert and more interested in the people around him and in his activities. There may be times when a patient is unable to exercise himself; it is then that exercises must be done for him with the nurse's help. Planned exercises will help improve the patient's strength and encourage him to try new steps each day toward independent living. Just knowing that something is being done for him and that someone is interested enough to do it does much to give him new hope.

Start treatment early. It is extremely important that rehabilitation procedures be established early in the patient's illness. Because it offers immediate hope, early treatment does not allow the patient to become mentally depressed and discouraged. Early treatment in rehabilitation helps prevent disabling conditions and prolonged bed rest. Early treatment also has more lasting results. The patient must be encouraged to do things for himself and to have a variety of interests. He is happiest when he is learning to do for himself and working toward the day when he is again self-sufficient.

Nursing Home Team

The team approach in caring for a patient means simply that there must be teamwork between the patient and everyone who is interested in him. Everyone must be working in the same direction, at the same time, for the same results. As the chart on page 5 shows, the nursing home team has six members: the patient, his physician, the nursing staff, the activities director, the community, and the patient's family.

PATIENT

The patient is always the center of the team's attention. The team approach is used to offer every possible resource in helping the patient to help himself. For the patient to benefit from rehabilitation, all of the team members, including the patient, must work together.

PATIENT'S PHYSICIAN

The team's direction regarding the treatment and care of the patient comes from the patient's physician. He knows the physical condition of the patient and uses this knowledge to guide the other team members regarding the rehabilitation program for his patient.

NURSING STAFF

The nursing staff takes its orders from the patient's physician and is responsible for seeing that the patient receives the necessary nursing care. In rehabilitative nursing, the nurse does the teaching of the patient to help him regain the highest degree of independence possible.

ACTIVITIES DIRECTOR

The activities director of the nursing home is responsible for that part of the rehabilitation program which includes crafts, recreation, and the organization and coordination of volunteer programs. These activities must be useful and purposeful, *never* just busy work. Activities carefully selected to use old skills and develop new ones encourage the patient to be more active and independent. The activities director works through the nursing personnel and physicians in planning the activity program.

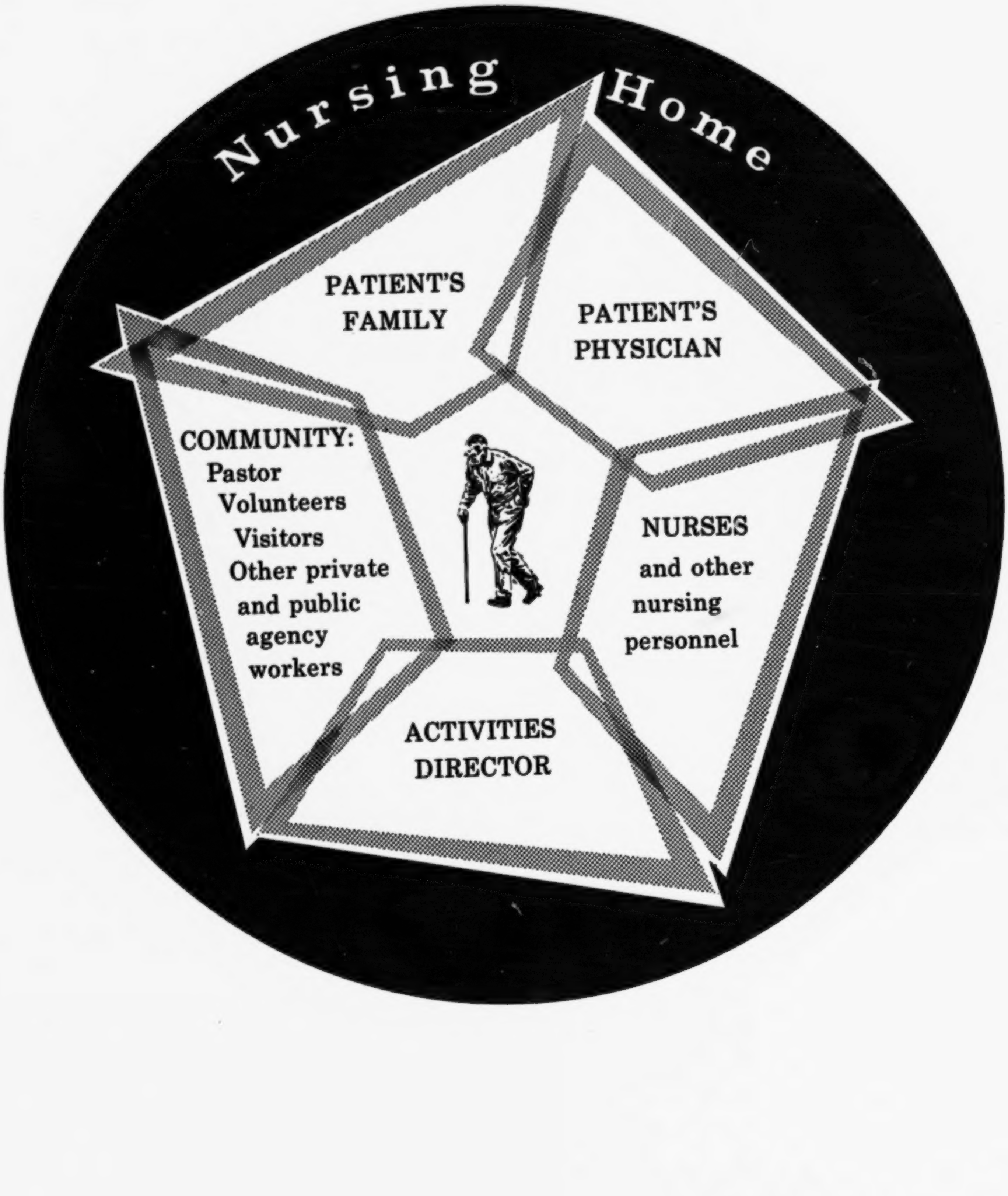
COMMUNITY

The nursing home patient is a member of the community and needs to feel that he is still *part* of that community. This may be achieved by the patient's going to church services in the community, to the polls to vote, to the public library, and to various other community functions. The nursing home should maintain and use a list of resource agencies to aid in meeting specific problems of both the patient and the home. The interest of the community in the nursing home may be aroused by periodically holding an "open house," holding religious services, and utilizing volunteer groups.

FAMILY

The family's attitudes, interests, and desires have an important and direct influence on how the patient responds to treatment. It is important to keep the family informed of the "what and why" of the patient's rehabilitation program, to show them how they may participate in the program, and to keep them posted on the patient's progress. This will be effective in promoting good family-patient relationships, good nurse-family relationships, and good nursing home-community relationships.

Nursing Home Team



Rehabilitation Nursing

In rehabilitation nursing, the nurse assists the patient to do for himself rather than doing everything for the patient. This concept is difficult for many nurses to accept and apply. If self-care is to be achieved the nurse must remember to use the patient's abilities no matter how limited they may be, and to accept the idea that the older patient can be rehabilitated for independent living.

NURSING OBJECTIVES

- To understand the patient as a person who is still a member of his family and community.
- To understand the personality changes that result from aging, long-term illness and disability, and that influence the patient to not care whether he is able to do for himself again.
- To recognize the need of counsel and guidance for the patient and his family in helping them meet their social, economic, recreational, and vocational problems through referrals to appropriate community resources.
- To know and apply good general nursing care as determined by the physician and the individual patient's needs; for example, nutrition, skin care, oral hygiene, elimination, exercise and rest.
- To understand and use certain rehabilitative nursing techniques such as —
    - Range of motion exercises to maintain movement.
    - Self-care, transfer, and walking activities.
    - Bowel and bladder training.
    - Good positioning to maintain body alignment.
- To remember that the nurse is an important part of the patient's life and can help influence him by her attitudes and actions.

SPECIAL EQUIPMENT

At times there is need to use special equipment that may assist in the patient's rehabilitation. Nurses on all shifts should understand how to use braces, crutches, parallel bars, and pulleys and know the purpose of devices made for patients to help feed or dress themselves. The patient needs encouragement and understanding in learning how to use this equipment. Many times he is frightened or discouraged to the point of choosing to stay in bed rather than to get up only to struggle with an unfamiliar procedure.

APPROACH AND MOTIVATION

What is *approach?* What is *motivation?* Why are they important? Approach is to *draw near*. Motivation is that within a person rather than without that *moves* him to *action*.

It is important in the practice of rehabilitation to approach the patient in the right manner in order to motivate him to be rehabilitated. Motivating the older person may be difficult to do. To make him want to walk again, to wash himself, to dress himself is a task that takes patience, understanding, and gentle but firm persuasion on the part of the nurse. Each patient is handled differently; an approach that works with one may not work with another.

Usually, the older patient has lost the desire to do more for himself. In this situation the nurse needs to make the patient feel he is still worthwhile and can be useful. She must be realistic, however, and not expect the older patient to do that which he is not capable of doing. She should start with a simple task such as having him wash his face, and should give him support, if only to stand by and encourage him. The older patient needs instruction in doing even very simple things. He may have forgotten how or may believe he cannot do as well as he should in performing everyday tasks.

Some patients will not want to help themselves because they fear they will receive less attention from the nurse if they become too self-sufficient. Motivating the patient to learn any one independent activity will probably not be accomplished with the first attempt. It is essential to return to the patient *consistently* every day, encouraging him to do the same task again or beginning to work with him on a new one. He should not be ignored for he may feel the nurse does not want to be bothered with him or that he has been unsuccessful in his past effort to learn.

Approaching the patient with enthusiasm is very important, but he should not be overwhelmed with it. The nurse's "mood" is often the factor that encourages or discourages him. The patient may have a good potential for being motivated, but to develop that potential he must be surrounded by interested people who will stimulate him and understand him.

Relationship of the Activities and the Rehabilitation Nursing Areas

The nursing and the activities programs are each a part of rehabilitation. They should be closely related and coordinated. In many ways each area helps the other; each is a part of patient care.

RESPONSIBILITIES OF STAFF IN BOTH AREAS

- The staff should exchange information regarding the patient's feelings, his cooperation, what he is doing, his problems, and the staff's ideas for improving the program for the patient.
- Everyone should help the patient see that he can still do things he thought he could no longer do.
- Each staff person should reinforce the other's work with the patient — should show interest and enthusiasm; should encourage the patient to participate in both rehabilitation nursing and activities.

The staff can accomplish this by —

- Talking to the patient about what he is doing, his activities of daily living, about coming events or whatever is pertinent in either area.
- Attending the activity program.
- Participating in social activities for patients and staff as often as possible.
- Helping the patient want to be less dependent. It may be difficult for the nurse to interest the patient in his daily care. The nurse, as well as others, may remind the patient that there is something special planned for him today—something for him to do or make that he will enjoy—necessitating the completion of his daily care.

Everyone should plan cooperatively and should change schedules as necessary to provide the maximum services and opportunities for the patient. Other departments — food service, housekeeping, etc.—have much to offer and should be included in the planning.

ACTIVITIES DIRECTOR'S RESPONSIBILITIES

The activities director is responsible for —

- Planning, scheduling, and carrying out a varied program (individual and group activities) that will encourage patients to participate.
- Planning and conducting activities at times when they do not conflict or interfere with basic and rehabilitative nursing care as well as other necessary procedures of the nursing home—cleaning, meals, etc.
- Planning and conducting activities that will use the abilities and encourage the participation of the nursing home staff. Participation will promote a feeling of helpfulness on the part of the staff. The staff's enjoyment of participation in the activities will certainly be recognized by and carried over to the patients.

NURSING STAFF RESPONSIBILITIES

The activities director needs help in —

- Getting patients ready and to the area for activities. The nursing personnel should have patients ready at a specific time and help transport them to a specified area when the activities director has planned a group project.
- Developing new ideas for activities. The nursing personnel who are with the patients most often hear them comment on their likes and dislikes. Those remarks, if passed on to the activities director, can be useful in developing a more interesting program.
- Obtaining craft materials. Everyone can participate by telling relatives, friends, and organizations about the nursing home's activities program—its need for usable material such as nylon hose, scraps of cloth, yarn, wood, plastic, etc.
- Obtaining volunteers. If friends in the neighborhood, church organizations or other groups in the community learn of the need for volunteers in the nursing home, they may want to help with the program.

Section II

Principles
and
Techniques
of
Rehabilitation
Nursing
Procedures

Body Alignment

GOOD BODY ALIGNMENT AND BED POSITIONING

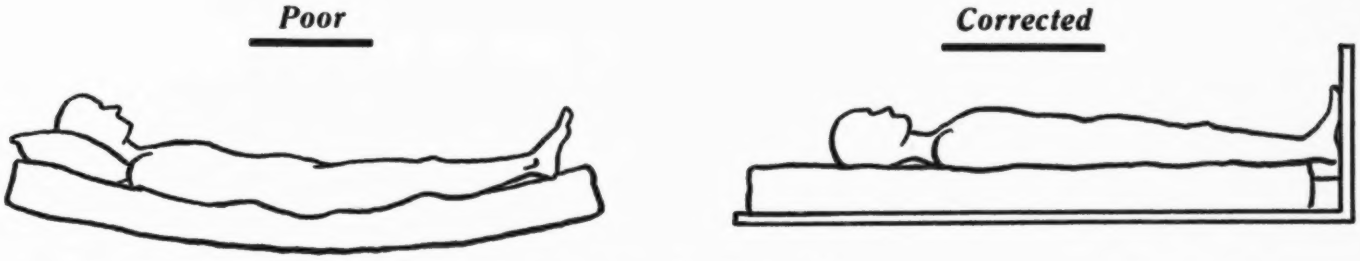
It is important that the patient who has to remain in bed for any length of time be kept comfortable. The patient should be positioned so that he is relaxed, arms and legs slightly bent (flexed), and is lying either on his side, back, or stomach. However, the hips and knees should not remain in the flexed position at all times as this promotes the development of contractures. When the patient is in either supine or prone position, the hips and knees should be extended as far as possible for at least part of the time.

It is essential that the patient's position be changed to prevent fatigue, contractures, and continuous pressure on any one part of the body. The patient's position should be changed *at least every 2 hours, day and night.* The patient should be taught how to assist in changing his position and, when possible, to do this independently.

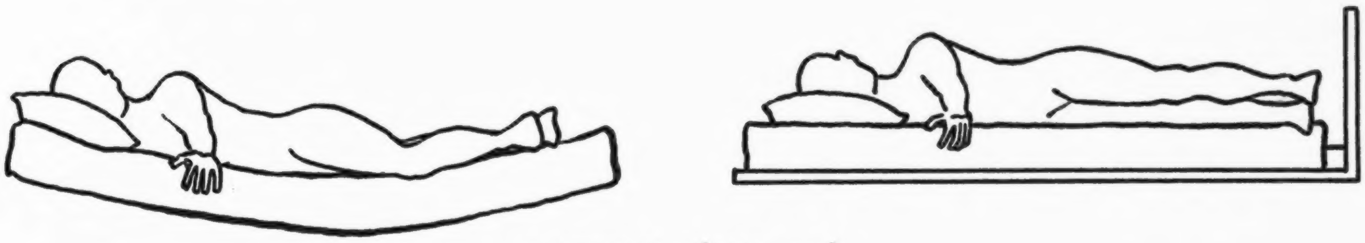
A firm mattress and springs are essential for maintaining good body alignment. A bedboard may be placed between the mattress and springs to prevent the mattress from sagging with the weight of the body. A footboard may be used to position the patient's feet at right angles to the legs in the supine and prone positions. A footboard also eliminates the danger of bedding drawing tightly over the patient's feet.

Tight bedding, especially for the weak and debilitated patient who remains unmoving in bed most of the time, can cause discomfort and further reduction of movement. Sheets tucked in tightly over the patient's toes and feet may cause foot deformities and ingrown toenails. Under tight bedding, the foot is held in plantar flexion, allowing tightening of the heel cord. The resulting inability to place the heel on the floor when attempting to stand or walk creates a painful stretch and makes walking difficult, if not impossible.

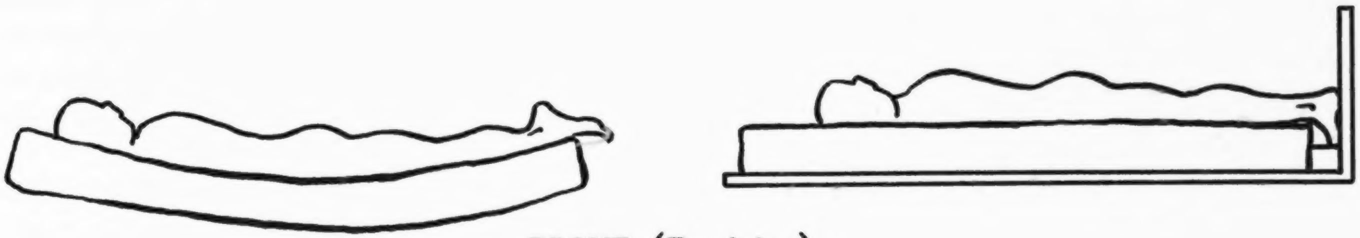
ALIGNMENT



SUPINE (Backlying)

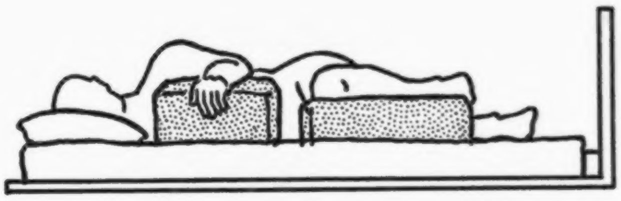


LATERAL (Sidelying)

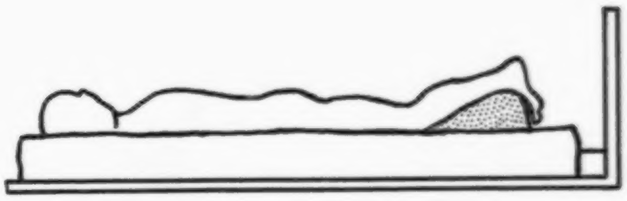


PRONE (Facelying)

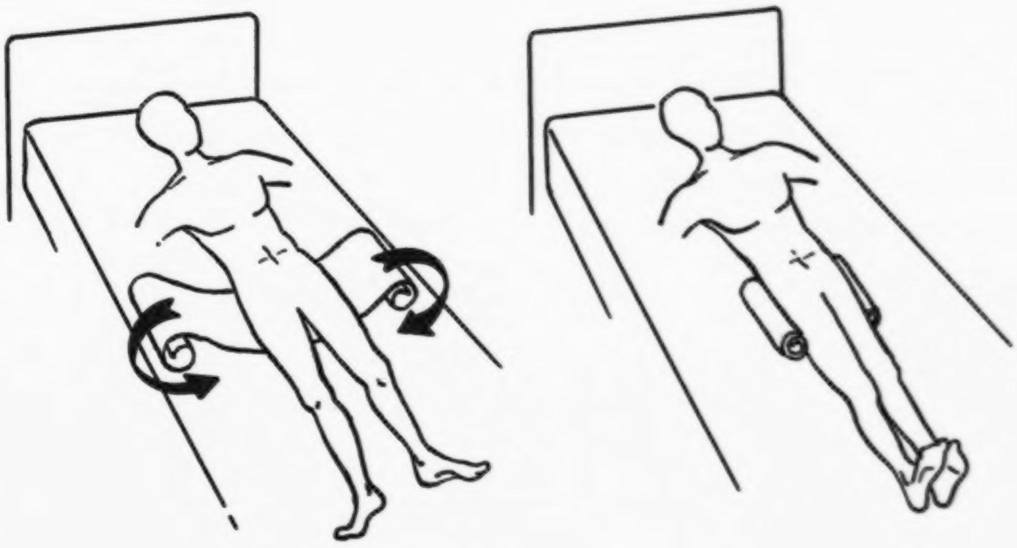
By using small pads, pillows, rolled towels, etc., support may be given to parts of the body, such as shoulders, hips, knees, and ankles, to maintain good body alignment and to contribute to the patient's comfort. Sponge rubber rings and "doughnuts" restrict circulation and create other pressure areas; therefore, their use should be discouraged. Air filled rings may be used if they are inflated *partially only,* allowing for a soft moveable surface rather than a firm surface which could restrict circulation to the area. Sandbags may be placed along the sides of the leg (from hip to knee) to prevent the leg from rotating. A trochanter roll may also be used for preventing outward rotation of the legs. This roll is made by folding either a bath blanket or sheet in quarters lengthwise and placing it crosswise of the bed, centering it under the patient at the hip line. The two ends of the blanket or sheet are then under-rolled firmly against the thigh and tucked slightly under the hip to hold the leg in good alignment.



Pillows supporting upper arm and leg in good alignment



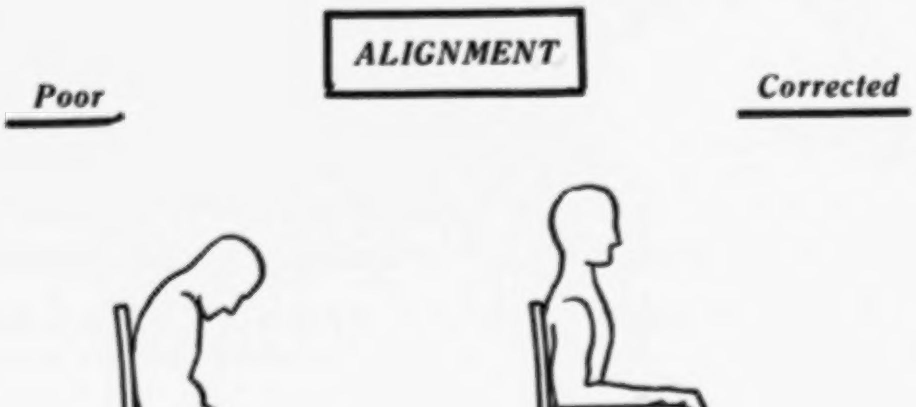
Pillow used to keep good foot alignment and also relax knees by slight flexing



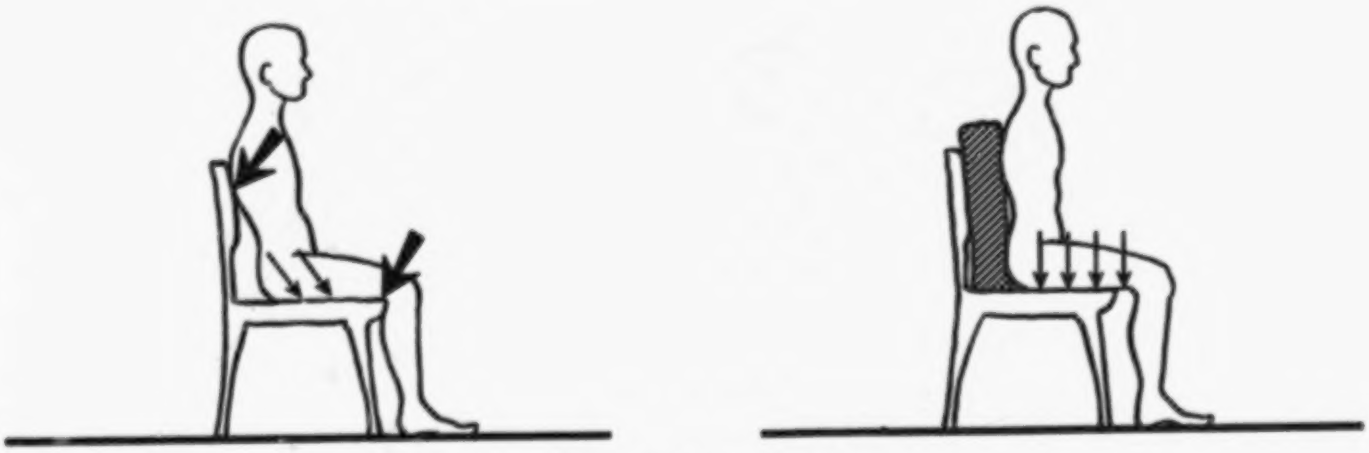
Trochanter Roll

GOOD BODY ALIGNMENT IN A SITTING POSITION

To maintain good body alignment and comfort in a sitting position, the patient's body weight should be equally distributed on his thighs and buttocks. His lower back should be positioned against the back of the chair and his feet flat on the floor. Armrests used to support the arms can help balance the body in a sitting position. If safety belts are necessary to keep the patient in the chair, be certain they are placed in such a manner that good body alignment is maintained. (Pillows and footstools may be used for correcting sitting alignment.)

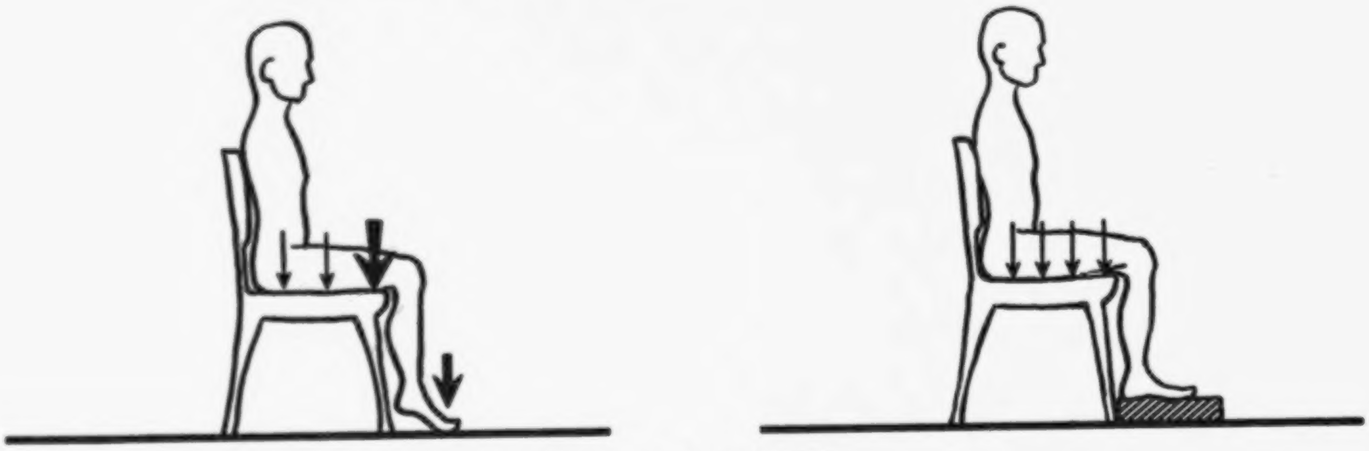


Poor Alignment *Good Alignment*

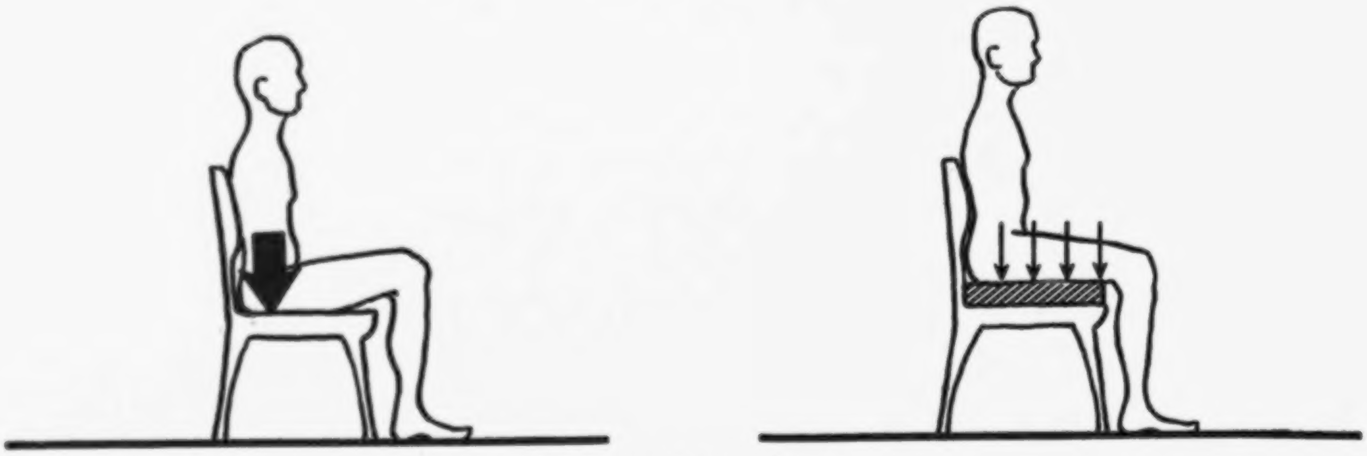


Chair seat too long

Poor *Corrected*



Chair seat too high



Chair seat too short

Introduction to Exercises

RANGE OF MOTION

Range of motion (R.O.M.) is the extent of movement within a given joint, and motion in a joint is achieved through the action of muscles or groups of muscles. Each joint has a normal range.

A range of motion of particular importance in rehabilitation nursing is the *functional* range. This is the range which is less than normal but which enables the limited joint or combination of joints to be functional for performing activities of daily living.

TYPES OF MOTION EXERCISES

Passive R.O.M. Exercises are done completely by someone other than the patient.

Active Assistive R.O.M. Exercises are done partially by the patient and partially by an assistant or by mechanical equipment.

Free Active R.O.M. Exercises are done wholly by the patient using the muscles of the part of the body being exercised.

Resistive R.O.M. Exercises are active exercises done by the patient against resistance provided by an assistant or by mechanical equipment.

PURPOSES FOR USE OF EXERCISES

(For a better understanding of the stated purpose, examples of types of patients are given; however, use of exercises is not limited to these examples.)

To maintain normal range of motion for all patients. ("Maintain" in this instance means that range of motion exercises are started *early* in the patient's illness or disability.

To increase joint motion to the greatest possible range. For all patients who have limited range of motion, such as arthritic patients who commonly have limitation of elbow or knee joints; for post-fracture patients after periods of immobility of joints.

To maintain muscle strength. Particularly important for the bedridden patient.

To increase muscle strength. Helpful for the patient with any degree of weakness such as loss of muscle strength resulting from long periods of inactivity, and for patient who needs to increase muscle strength to use mechanical devices or artificial limbs.

To increase endurance. Endurance differs from strength in that a patient may have the strength to perform an activity a few times but does not have the endurance to continue performing the activity over a prolonged period of time. Increasing his endurance helps the patient who has developed the strength to stand or walk on crutches but is unable to continue doing so throughout an entire day.

To develop coordination. This is helpful for the patient who has involvement of the nervous system, whether of the spinal cord or of the brain.

To prevent deformities. Limited joint range is one cause of deformities. The importance of starting exercise early before deformities develop cannot be overstressed, especially for hemiplegic, arthritic, and fracture patients.

To promote circulation. This is helpful in diseases of the blood vessels and veins of the extremities such as commonly found in the diabetic patient and the patient with hardening of the arteries (arteriosclerosis). Improved circulation helps to prevent open sores and swelling of extremities. Good circulation promotes bone formation and thus aids in healing fractures. It also improves the functioning of all organs in the body; tones up the muscles of the cardiovascular system; increases oxygen need causing the breathing mechanism to increase its work and eventually its efficiency.

GUIDES IN THE USE OF EXERCISES

In each exercise session include the repetition of every motion of a joint two to five times, repeating the exercise sessions once or twice daily. This is better than irregular or long periods of exercise done less often.

Before starting the exercises explain to the patient —

- What you are doing.
- Why you are doing it.
- What he should do —
  Relax for passive exercises, particularly if stretching is included.
  Help, if active assistive exercise is indicated.
- How it will feel.

During exercise session —

- See that all movements are made in a smooth and steady manner.
- See that all movements are as complete as possible.
- Avoid causing excessive pain.
- Avoid causing excessive fatigue.
- Give patient confidence in your ability.
- Encourage patient to become self-confident.
- Gain the concentration and cooperation of the patient.
- Stop the session if unfavorable change occurs, or if doubtful of patient reaction.

After exercise session —

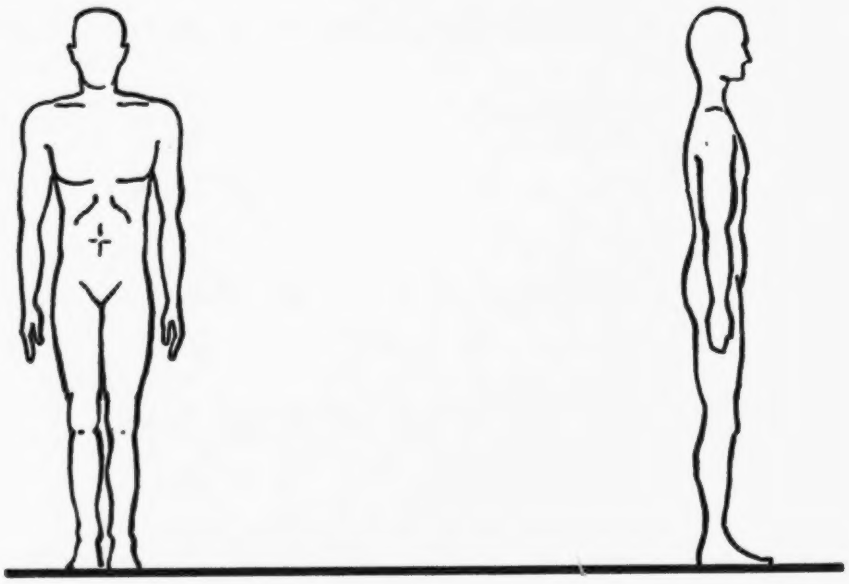
- Report any change immediately.
- Note change.

Normal Body Motions

The purpose of this section is to acquaint nursing home staff with normal ranges of motion and to provide descriptions of the motions.

NEUTRAL POSITION

This position is used as a basis for describing and performing the body motions. Neutral position is standing or lying straight, heels together, arms at the side with palms toward body.



Neutral Position

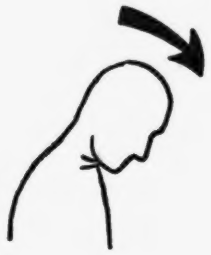
DEFINITIONS OF COMMON TERMS USED IN DESCRIBING BODY MOTIONS

R.O.M.	— Range of motion: the extent of movement within a given joint.
Flexion	— Bending.
Extension	— Straightening.
Abduction	— Moving the part away from the midline.
Adduction	— Adding to or bringing the part toward the midline.
Rotation	— Turning a limb or body part around its long axis.

MOTIONS OF THE HEAD AND NECK

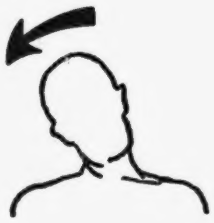
Extension — Bending head backward (looking up).
Flexion — Bending head forward (looking down).

Extension

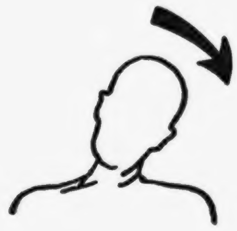


Flexion

Lateral Flexion — Bending head so that ear is moved toward shoulder.

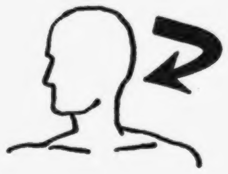


Right lateral flexion

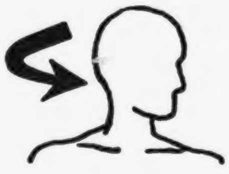


Left lateral flexion

Rotation — Turning head to look over the shoulder.



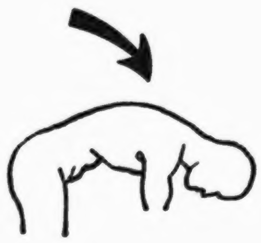
Right rotation



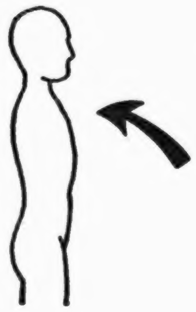
Left rotation

MOTIONS OF THE BODY TRUNK

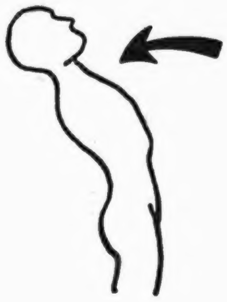
Flexion — Bending forward from the waist.
Extension — Straightening from the flexed position to the neutral position.
Hyperextension — Moving trunk backward from the waist.



Flexion

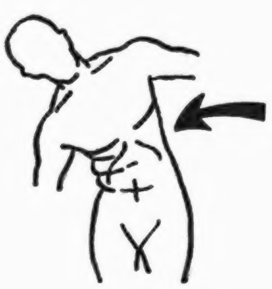


Extension

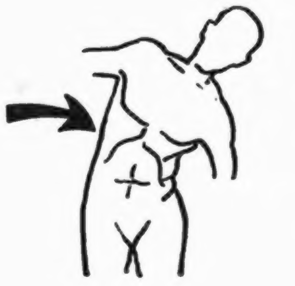


Hyperextension

Lateral Flexion — Bending sideways from the waist.

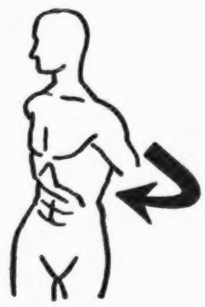


Right lateral flexion

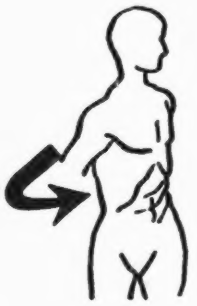


Left lateral flexion

Rotation — Turning shoulders keeping hips stationary, or turning hips keeping shoulders stationary.



Right rotation



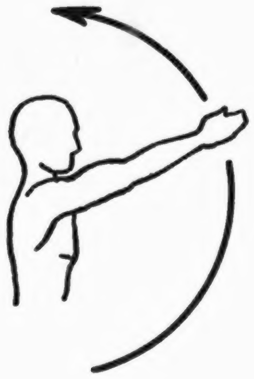
Left rotation

MOTIONS OF THE SHOULDER

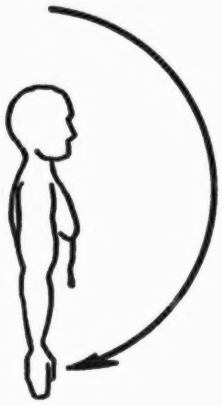
Forward Flexion — Moving arm forward and upward until it is along the side of the head.

Extension — Returning arm downward to the side, or neutral position, after flexion.

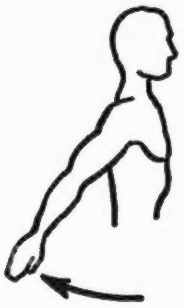
Hyperextension — Moving arm backward from the neutral position.



Forward flexion



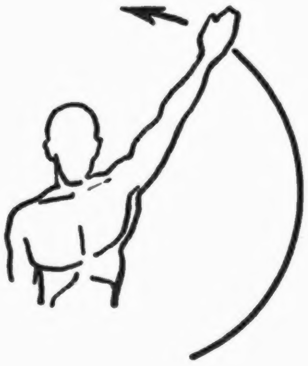
Extension



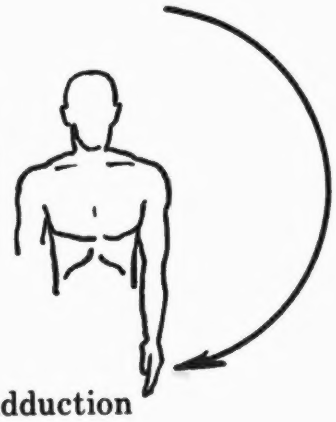
Hyperextension

Abduction — Moving arm sideways away from the body to above the head.

Adduction — Returning arm to the side, or neutral position, after abduction.



Abduction

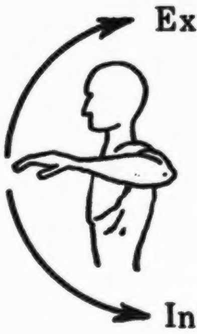


Adduction

Motions of the Shoulder—*continued*

External Rotation — With arm at shoulder height, elbow bent to 90° angle, palm toward feet — turning upper arm until the palm and forearm face forward.

Internal Rotation — With arm at shoulder height, elbow bent to 90° angle, palm toward feet — turning upper arm until palm and forearm face backward.

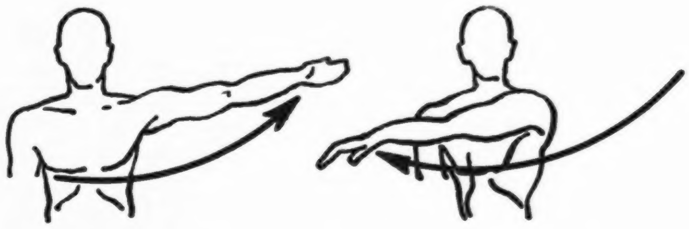


External rotation (palm forward)

Internal rotation (palm backward)

Horizontal Abduction — With arm at shoulder height — moving arm back at this height as far as possible.

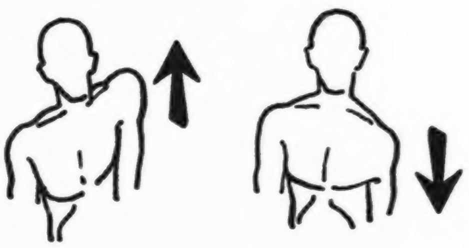
Horizontal Adduction — With arm at shoulder height — moving arm across body toward other shoulder as far as possible.



Horizontal abduction **Horizontal adduction**

Elevation — Lifting shoulder toward the ear.

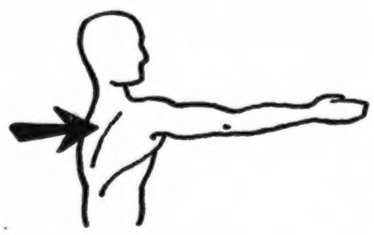
Depression — Lowering shoulder toward the hip.



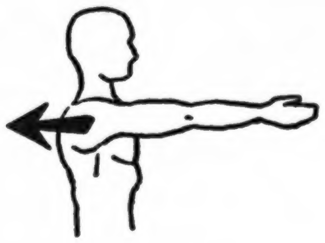
Elevation **Depression**

Motions of the Shoulder—*continued*

Protraction	— With arm in forward flexion at shoulder height — reaching forward as far as possible.
Retraction	— Drawing arm and shoulder back from position of protraction as far as possible.



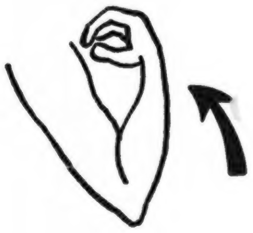
Protraction



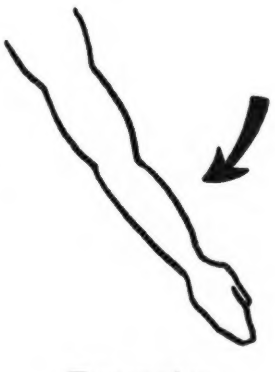
Retraction

MOTIONS OF THE ELBOW

Flexion	— Bending elbow bringing forearm and hand toward shoulder.
Extension	— Returning forearm and hand to neutral position (arm straight).



Flexion

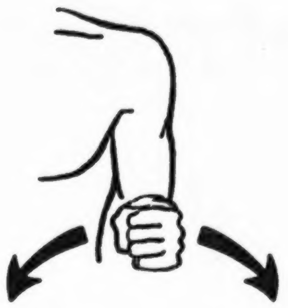


Extension

MOTIONS OF THE FOREARM

Supination	— With elbow at waist, bent to 90° angle — turning hand so that palm is facing up.
Pronation	— With elbow at waist, bent to 90° angle — turning hand so that palm is facing down.

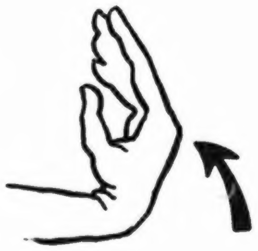
Motions of the Forearm—*continued*



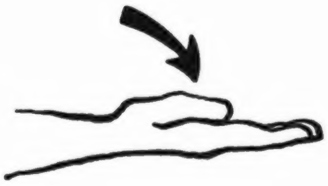
Pronation Supination

MOTIONS OF THE WRIST

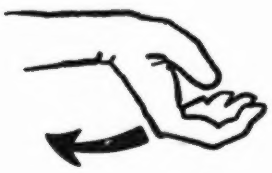
Flexion — Bending wrist so that palm is toward forearm.
Extension — Straightening from flexed position to a neutral position.
Hyperextension — Moving hand so that back of hand is moved toward forearm.



Flexion

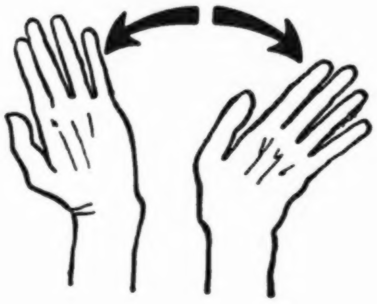


Extension



Hyperextension

Radial Deviation — Moving hand sideways so that thumb side of hand is moved toward forearm.
Ulnar Deviation — Moving hand sideways so that little finger side of hand is moved toward the forearm.



Radial deviation Ulnar deviation

MOTIONS OF THE FINGERS

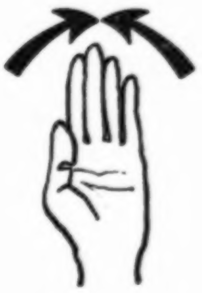
Flexion — Bending fingers toward palm (make a fist).
Extension — Returning fingers to neutral position (straighten fingers).

Flexion

Extension

Abduction — Moving fingers apart (spread fingers).
Adduction — Moving fingers together.

Abduction



Adduction

MOTIONS OF THE THUMB

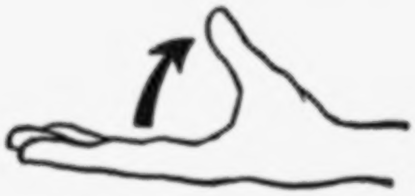
Flexion —Bending thumb at all joints.
Extension — Straightening thumb.

Flexion

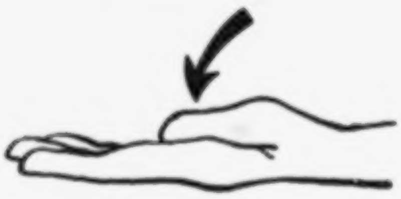
Extension

Motions of the Thumb—*continued*

Abduction — Palm up, moving thumb up and away from palm.
Adduction — Returning thumb to position along side of first finger.

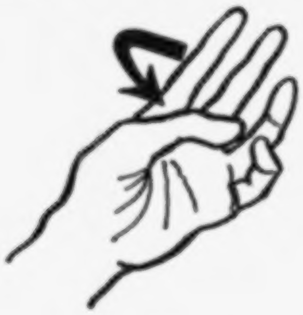


Abduction



Adduction

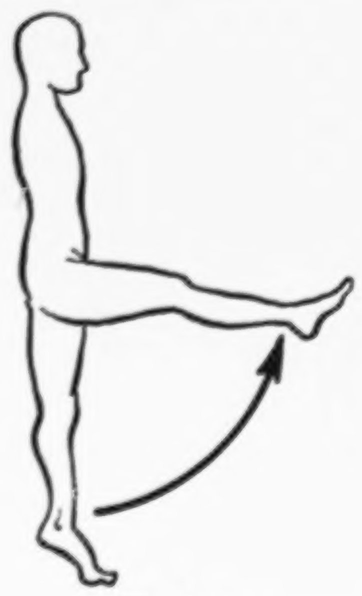
Opposition — Moving thumb out and around to touch little finger.



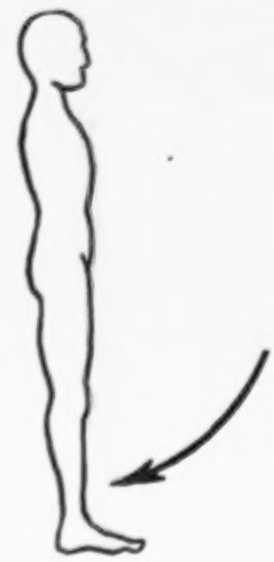
Opposition

MOTIONS OF THE HIP

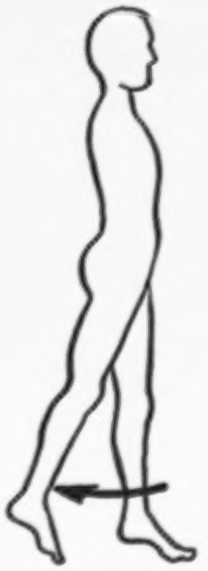
Flexion — Bending hip by moving the leg forward as far as possible.
Extension — Returning leg from the flexed hip position to the neutral position.
Hyperextension — Moving leg backward from the body as far as possible.



Flexion



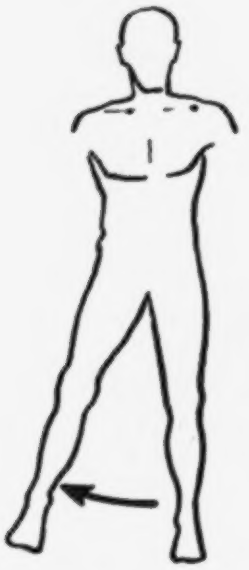
Extension



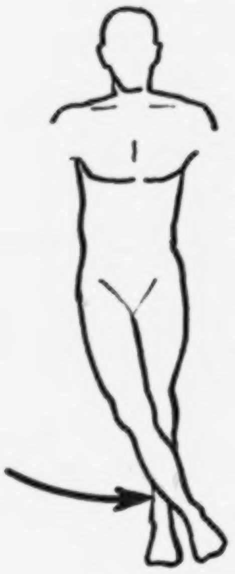
Hyperextension

Motions of the Hip—*continued*

Abduction — Moving leg outward from the body as far as possible.
Adduction — Returning leg from the abducted position to the neutral position and across the other leg as far as possible.

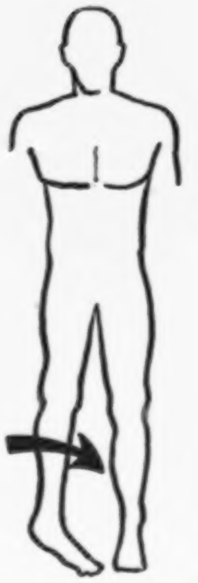


Abduction

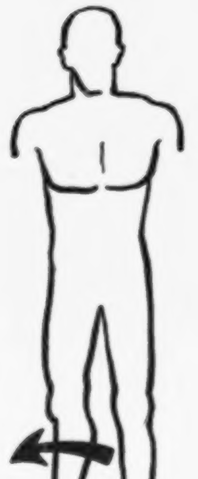


Adduction

Internal Rotation — Turning leg in an inward motion so toes point in.
External Rotation — Turning leg in an outward motion so toes point out.



Internal rotation

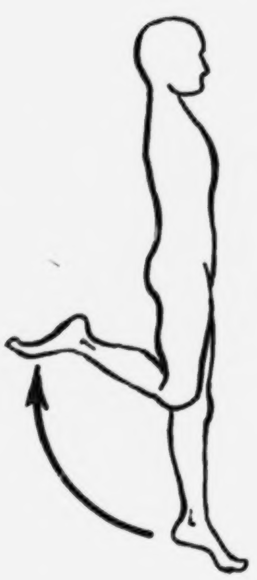


External rotation

MOTIONS OF THE KNEE

Flexion — Bending knee bringing lower leg and foot toward back of upper leg.

Extension — Returning lower leg and foot to neutral position (leg straight).

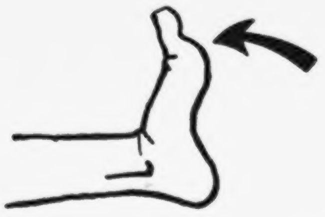


Flexion

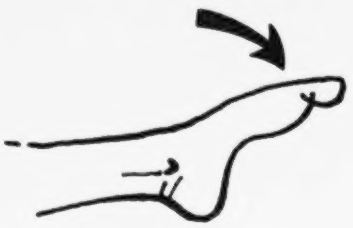
Extension

MOTIONS OF THE ANKLE

Dorsal Flexion — Moving foot up and toward the leg.
Plantar Flexion — Moving foot down and away from the leg.



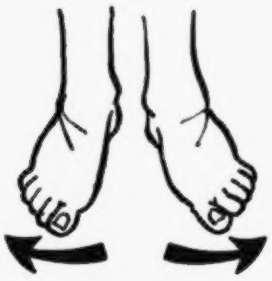
Dorsal flexion

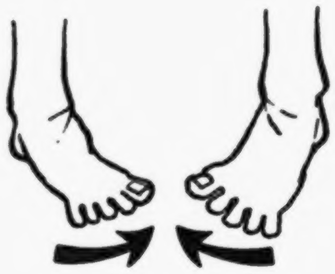


Plantar flexion

Motions of the Ankle—*continued*

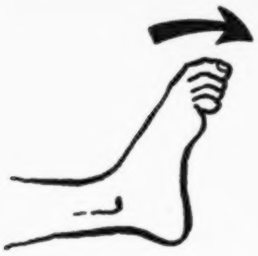
Eversion — Moving foot so sole is facing outward.
Inversion — Moving foot so sole is facing inward.

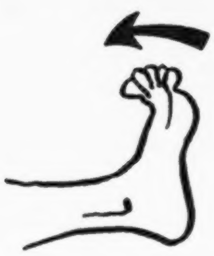

Eversion


Inversion

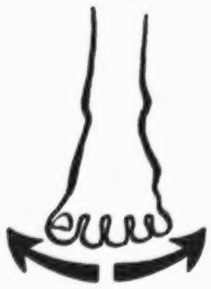
MOTIONS OF THE TOES

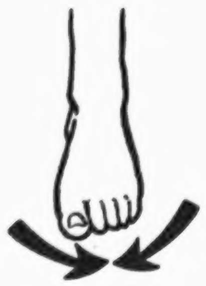
Flexion — Bending toes toward ball of foot.
Extension — Straightening toes and pulling them toward the shinbone as far as possible.


Flexion


Extension

Abduction — Moving toes apart.
Adduction — Moving toes together.


Abduction


Adduction

Passive Range of Motion Exercises

The purpose of this section is to acquaint the nursing home staff with passive range of motion exercises.

POSITIONS OF PATIENT

Supine (backlying) — Lying straight on back with heels together and arms at sides.

Lateral (sidelying) — Lying on side with bottom leg flexed for balance in side position.

Prone (facelying) — Lying on stomach with toes over end of mattress and arms at sides.

GUIDES IN THE USE OF EXERCISES

- Explain to the patient what you are going to do and why.
- Watch patient's face, particularly the eyes, for any expression of pain. Explain that initially the exercises may be painful but the pain will usually subside when exercises are done daily.
- Support the part being exercised above and below the joint for ease in handling and to prevent undue discomfort for the patient.
- Avoid unnecessary stress and strain on yourself by practicing proper body mechanics. Examples: Moving patient to a place on the bed where he can be reached easily; keeping your back as straight as possible; bending your knees as necessary to prevents strain on your back.
- Keep the part of the patient's body you are exercising as close to your body as possible.
- Include in each exercise session the repetition of every motion of the joint two to five times for the joints needing treatment. Exercises should be done a minimum of once a day, and twice a day would be even better.

TECHNIQUES OF PASSIVE RANGE OF MOTION EXERCISES

SUPINE (backlying) POSITION

NOTE: The exercises in the following techniques will be designated by motion name only; for description of motion, refer to pages 21 through 32.

Head and neck. Cup hands over patient's ears, grasping head firmly for —

Flexion
Lateral Flexion
Rotation

Trunk. Place one arm under patient's head, grasping far shoulder with one hand and near shoulder with your other hand (or grasp both legs at the knees with one or both arms) for —

Flexion
Extension
Lateral flexion
Rotation

Shoulder. Grasp patient's arm by placing one hand just above the elbow and your other hand supporting patient's wrist and hand for —

Forward flexion
Extension
Abduction
Adduction
Horizontal abduction
Horizontal adduction
Elevation
Depression
Protraction
Retraction

With patient's shoulder at 90° abduction and elbow at 90° flexion, use above grasp for —

External rotation
Internal rotation

Elbow. Grasp patient's arm by placing one hand just above the elbow and your other hand supporting patient's wrist and hand for —

Flexion

Extension

Forearm. With patient's upper arm resting on the bed and elbow bent at 90° angle, with both hands grasp patient's wrist and hand for —

Pronation
Supination

Wrist. Grasp patient's forearm just above the wrist with one hand and use the other to grasp the patient's hand for —

Flexion
Extension
Hyperextension
Radial deviation
Ulnar deviation

Fingers. Support patient's forearm and wrist with one hand and use the fingers of your other hand for —

Flexion
Extension

Use both hands to grasp patient's fingers for —

Abduction
Adduction

Thumb. Support patient's hand and fingers with one hand and grasp his thumb with the other hand for —

Flexion
Extension
Abduction
Adduction
Opposition

Hip. Support patient's leg by placing his ankle on your upper arm or shoulder, holding his knee in extension with your hand for —

Flexion (flexion of the hip should also be done with the knee flexed.)
Extension

Support patient's leg by placing one hand under his ankle and the other hand just above his knee for —

Abduction
Adduction

With patient's leg resting on the bed, place one hand on top of his knee and the other on top of his ankle (or with both the patient's hip and knee flexed at approximately 90° angle, place one hand under his knee and with the other hold his ankle) for —

Internal rotation
External rotation

Knee. Flex patient's hip approximately 90° and support his leg by placing one hand just above his knee and grasping his ankle with the other hand for —

Flexion
Extension

Ankle. With patient's leg resting on the bed, place one hand on his knee to keep it from flexing and grasp his heel in the palm of your other hand with the sole of his foot resting against your forearm for —

Dorsal flexion
Eversion
Inversion

Toes. Hold patient's foot with one hand and use the other hand for —

Flexion
Extension

Use both hands to grasp patient's toes for —

Abduction
Adduction

LATERAL (sidelying) POSITION

Head and neck. Cup hands over patient's ears grasping the head firmly for —

Extension

Shoulder. Grasp patient's arm, placing one hand just above his elbow and the other hand supporting his wrist and hand for —

Hyperextension
Completion of horizontal abduction
Completion of retraction

Hip. Stand behind patient; stabilize his pelvis with one hand and support his leg on the opposite forearm, grasping his knee with your hand for —

Hyperextension

Knee. Stand behind patient, keep his hip in extension with one hand and grasp his ankle with your other hand for —

Flexion (it is necessary that flexion of the knee be done with the hip in extension, lateral or prone position, in addition to the hip in flexion as described under supine position. See "knee," page 36).

PRONE (facelying) POSITION

Trunk. With your hand and arm grasp patient's head and shoulders or both legs for —

Hyperextension

Shoulder. Place hand under patient's shoulder and lift for —

Completion of retraction (usually both of patient's shoulders are retracted at the same time when he is in this position.)

All of the remaining range of motion exercises listed for the patient in the lateral position can also be accomplished in a prone position using the same technique.

EDITORIAL NOTE

Although this manual is a guide for training nursing personnel, some sections are directed to the patient in the development of self-care. Directions to the patient will appear in the same typeface as this editorial note.

Transfer Activities

Transfer activities are a valuable aid to the nursing home staff and are beneficial to the patient in the development of patient self-care.

GENERAL PRINCIPLES

BED TO BED

Moving from side to side. **Move head and shoulders first by using a "worm-like" movement, then bring hips in line with head and shoulders, using hands if necessary, and follow through with legs by using whatever method is feasible.**

Rolling over. **Lie on back, arms at sides, knees straight if possible; do not lie too close to edge of bed. Turn body to side by using opposite arm to grasp the mattress or a bedrail and *pull* body to the side position; or continue on to the prone position as desired. To return, use opposite arm to *push* body back to the supine position.**

Sitting up with legs still in the bed.

Without mechanical aid —

Lie flat on back, place palms of hands near hips, press on elbows raising head and shoulders, slide elbows back as far as possible under shoulders. Push on hands straightening elbows one at a time, then take small steps forward with hands until you are sitting upright. To lie down reverse the procedure.

With mechanical aid —

Trapeze—Grasp the bar with one or both hands and pull body to sitting position. Bed rope (made out of three substantial strips of sheeting or unbleached muslin braided together and attached securely to the foot of the bed.)—Grasp the rope with one or both hands placed as far down on the rope as possible and pull body to sitting position.

NOTE: While in the sitting position, begin to practice "push up" exercises to strengthen muscles needed for future transfer activities. Place hands on bed next to hips, straightening elbows, pushing on the bed and raising hips.

Moving from side to side and forward and backward in the sitting position. **Place hands on bed next to hips, straighten elbows; push on hands thus raising hips, and slide body from side to side or forward and backward on the bed.**

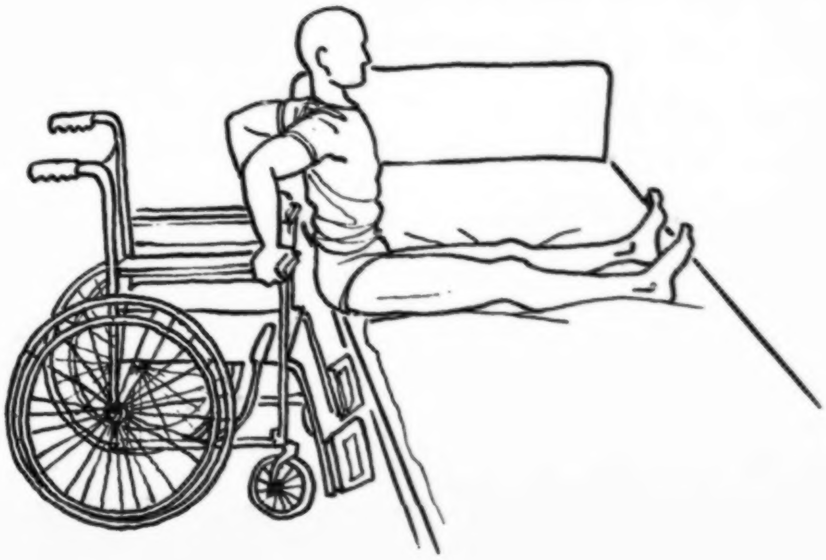
Bed to Bed Transfer—*continued*

Moving from sitting position with legs extended to dangling position with legs flexed over side of bed. **From a balanced sitting position, move legs over the side of the bed using hands as necessary. (This position is used to stimulate circulatio of the lower extremities and also to continue improvement of sitting balance.)**

CAUTION: You may become dizzy when first assuming this position; do not attempt it unless someone is in attendance.

BED TO WHEELCHAIR

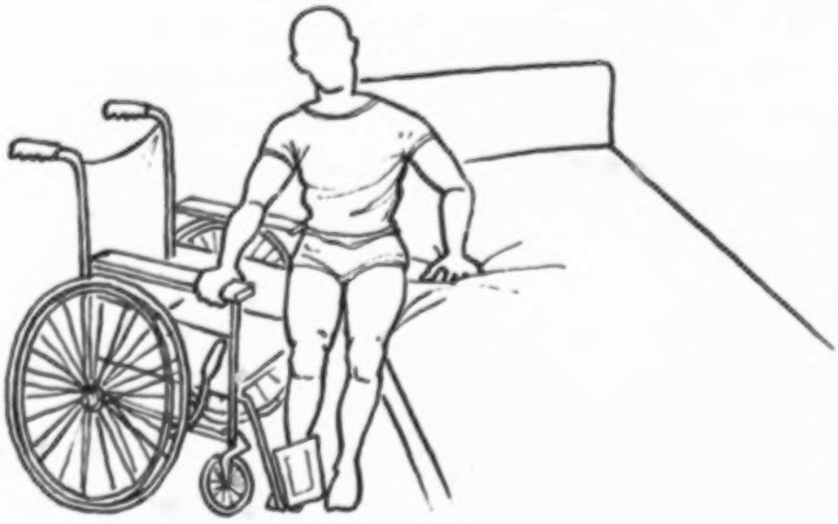
Forward position. **Place wheelchair as close to the bed as possible in the forward position facing the bed; *lock brakes.* Move into sitting position with legs extended crosswise of bed away from chair; with hands placed on armrests of chair, push on hands and arms and slide body backwards into wheelchair, lifting legs off bed to chair position. Returning to the bed, reverse the procedure.**



Angle position. **Place wheelchair as close to the bed as possible in an angle position facing the bed; *lock brakes.* Move into dangling position with legs in the space between wheelchair and bed; place hand closest to wheelchair on the far armrest of the chair and other hand beside hips on the bed; using a pivot movement, bearing weight of body on hands and arms, lift body into wheelchair. Returning to the bed, reverse the procedure.**

NOTE: With the wheelchair in this position, the slide board can be used as a bridge in transferring from bed to wheelchair.

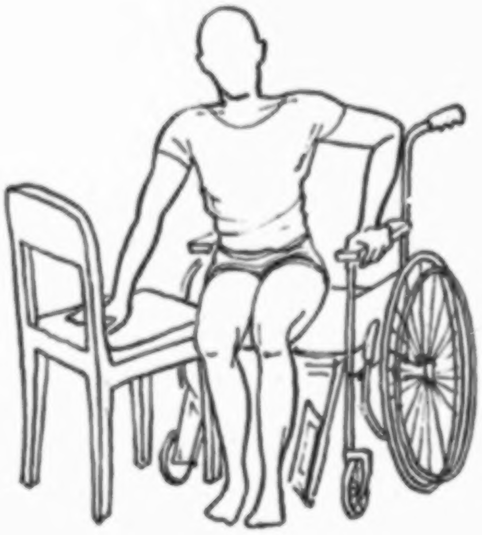
Bed to Wheelchair—*continued*

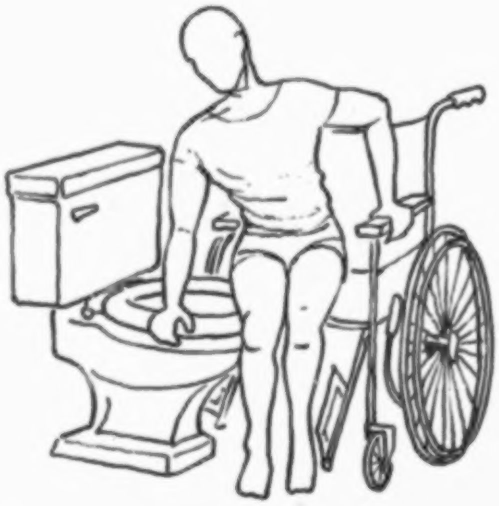


WHEELCHAIR TO CHAIR

Place wheelchair facing the chair, as close to the chair as possible, with footrests of wheelchair straddling one front leg of the chair; *lock brakes.* Slide forward to edge of wheelchair, place one hand on armrest of wheelchair and other hand on seat of chair; using a pivot movement bearing weight of body on hands and arms, lift body into the chair. Reverse procedure for returning to wheelchair.

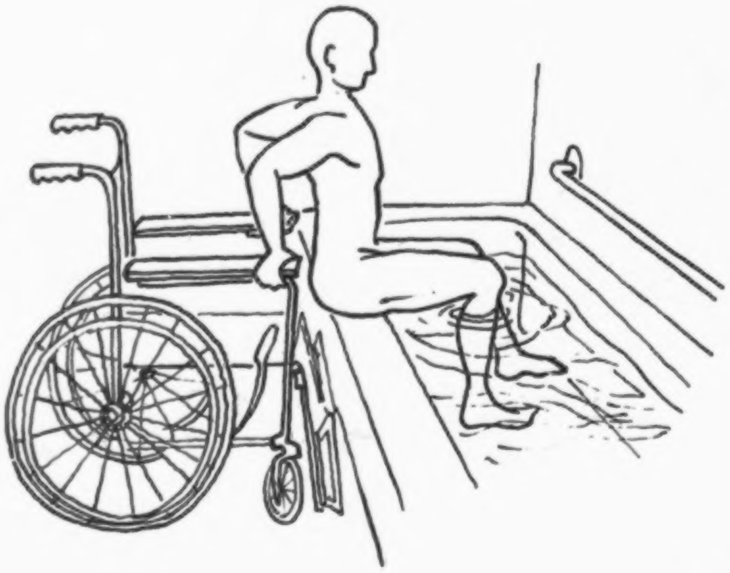
NOTE: The same procedure can be used in transferring from wheelchair to toilet seat and to shower chair or bench.

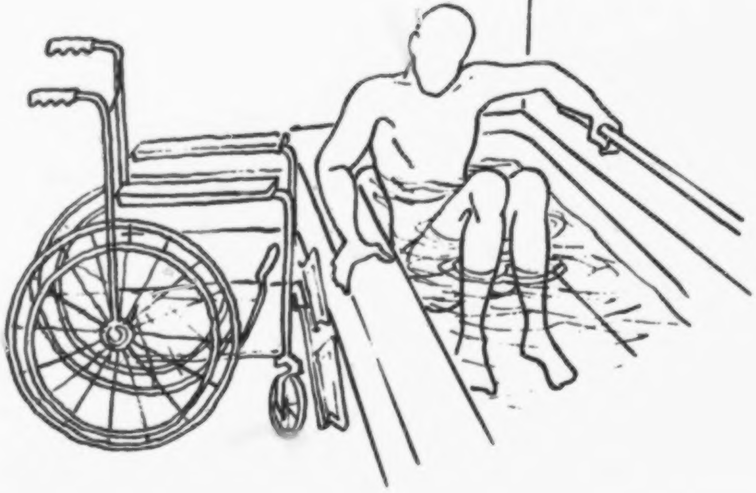




WHEELCHAIR TO BATHTUB

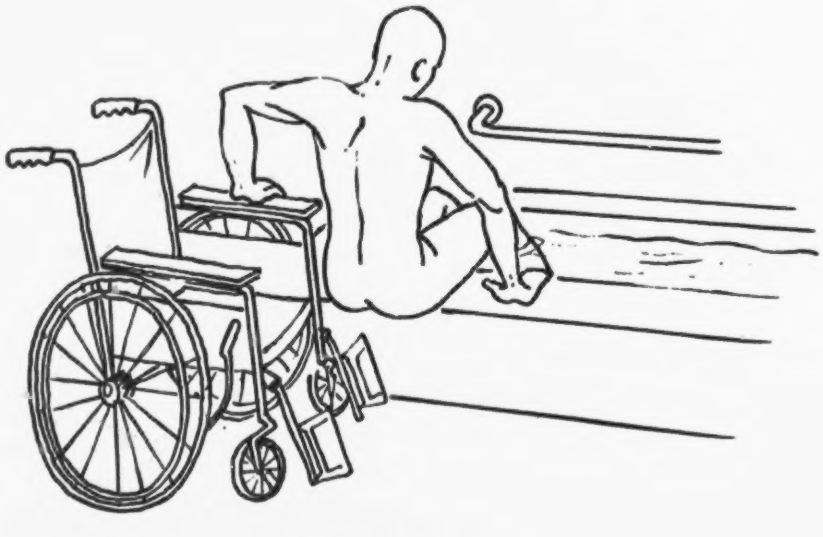
***Forward position*. Place wheelchair as close as possible to the side or end of bathtub in forward position facing tub; *lock brakes*. Lift feet and legs into tub. Placing hands on armrests of chair, slide body forward to a sitting position on edge of tub. Place one hand on the near edge of tub and other hand on the far side of tub or on grabrail mounted on wall and lower body into tub. Reverse procedure to return to chair.**

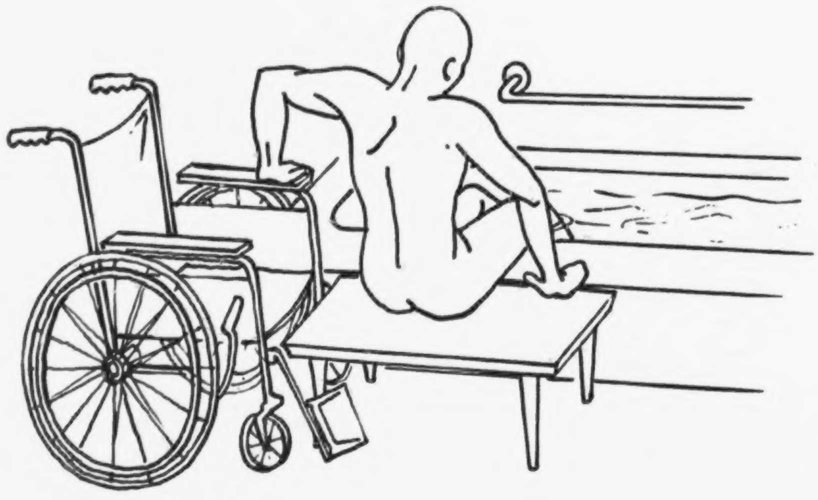




Angle or side position. **Place wheelchair as close to bathtub as possible in either an angle position or side position facing the faucet end of the tub; *lock brakes.* Lift feet and legs into tub. Slide sideways from wheelchair to a sitting position on edge of tub. Place one hand on the near edge of tub and other hand on the far edge or on grabrail mounted on the wall and lower body into tub. Reverse procedure to return to chair.**

NOTE: With the wheelchair in this position, a slide board or bench can be used as a bridge in transferring from wheelchair to tub.

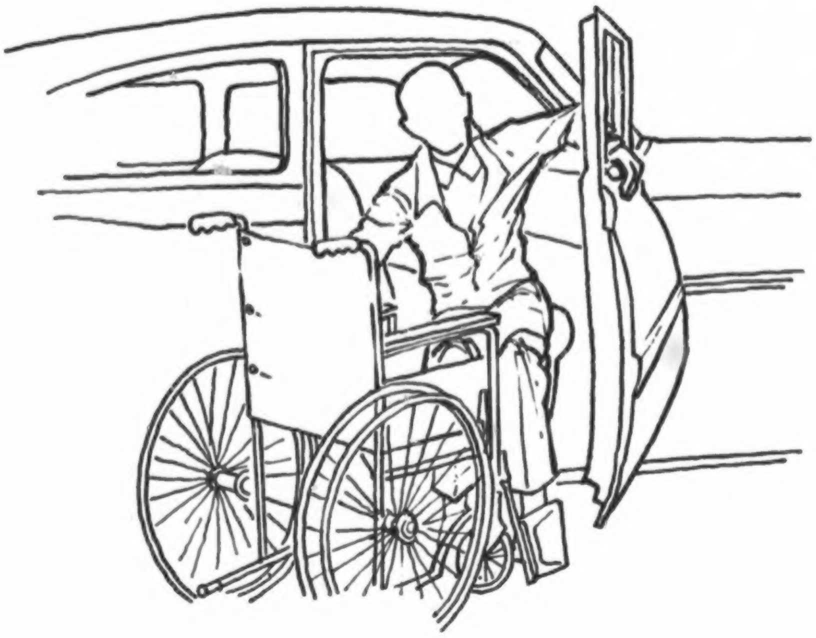




Helpful Hints: If tub is filled with water, it is easier for you to get in and out, but caution must be used. To prevent slipping in the tub, a rubber suction bath mat can be used. Also a small stool equipped with suction crutch tips may be used in the bathtub if it is difficult for you to lower yourself to the bottom of the tub.

WHEELCHAIR TO AUTOMOBILE

Place wheelchair facing door of the car; open car door and swing it back to lock position. Move wheelchair forward as close as possible into the angle formed by car door and side of the car; *lock brakes.* Slide to front edge of wheelchair seat and, by turning in the direction of the front of the car, face toward wheelchair. Placing hand nearest car door on the window ledge of the door and other hand on wheelchair armrest farthest from the door, lift yourself onto the car seat; then lift legs and feet into the car. Reverse procedure for returning to wheelchair.



Ambulation Activities

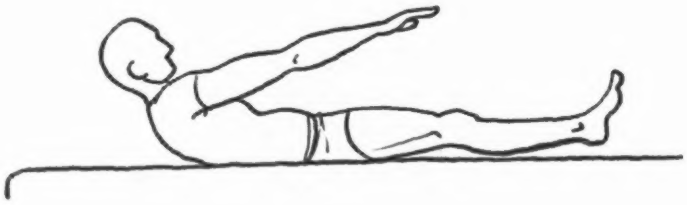
Ambulation is a difficult task for the patient who has not walked for a long time due to an illness or a disability. The nurse must have a physician's order for ambulation of the patient. She will need to know how to help the patient prepare for ambulation activities and how to teach him to use the necessary equipment. The nurse will gain the patient's interest and cooperation by including him in the planning. Both the patient and the nurse must remember that learning to walk takes time and patience. Learning to use crutches, cane, or walker requires a planned program of progressive activities.

EXERCISES

This series of exercises is given to improve the patient's strength, endurance, and balance.

BED AND CHAIR

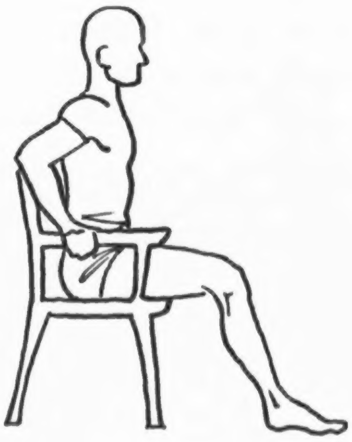
- **Raise head and shoulders off the bed, reaching forward with hands.**
- **Sit up in bed, place hands on bed next to hips and do "push up" exercises Books or blocks may be used under the hands to improve the mechanics of the exercise.**

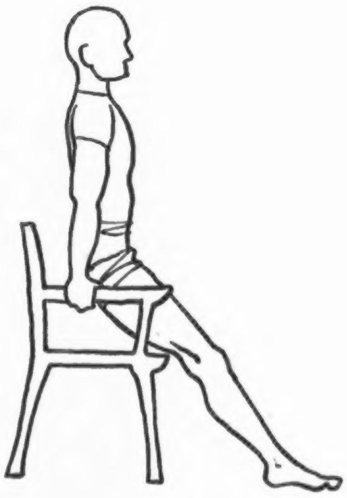


Bed and Chair—*continued*

- **Grasp arms of chair with hands and raise body out of seat.**

NOTE: Chair may be a wheelchair (locked brakes) or any type of armchair. Propelling your own wheelchair helps to strengthen your arms.

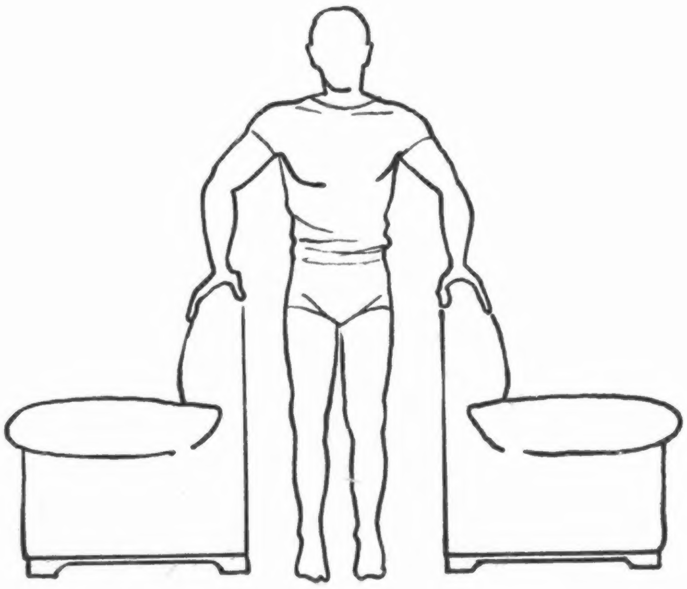


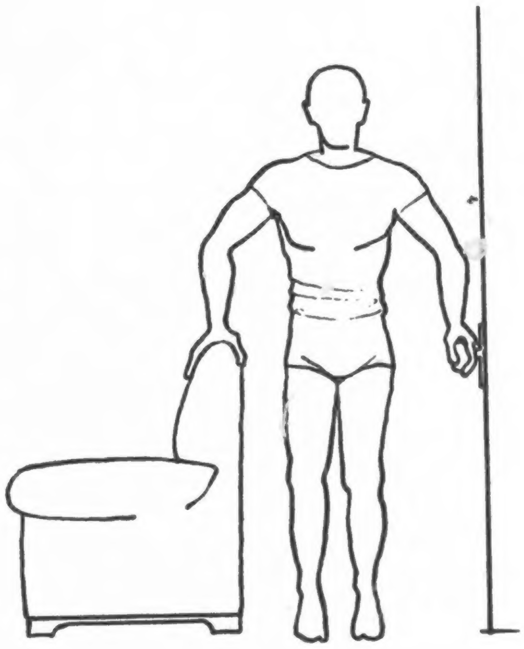


PARALLEL BARS

- Propel the wheelchair into the parallel bars; *lock brakes.* Use the bars to push up to the standing position, do not *pull* up to stand.
- Standing balance —
  With hands grasping bars, shift body weight from side to side.
  Shifting body weight from side to side, alternately lift one hand then the other.
  Remove both hands from bars and stand alone as long as possible.
- Push-ups—grip bars with hands and raise body.
- Shift body weight forward and backward placing hands on the bars in front of body and then on the bars in back of body.
- Turn between the bars by pivoting the body part way to face one bar; grasp that bar with both hands, then turn part way again. Place one hand on each bar and complete body turn.

NOTE: If parallel bars are not available, two heavy chairs, the ends of beds, stationary furniture, hall rail and chair, or other substitutes can be used. Be certain that any substitute used is stable and can't be easily overturned. Do same exercises as described above.





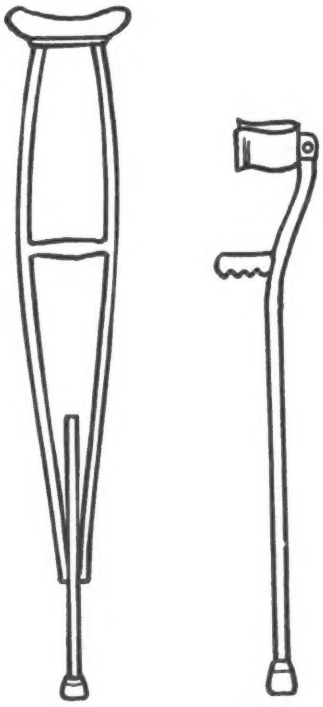
GAIT

CRUTCHES

Types

Axillary — fits under the upper arm.

Lofstrand or Canadian — fits the forearm by means of a metal cuff.



Considerations

- Use safety rubber suction tips to prevent slipping. (Check tips regularly and replace when worn and no longer safe. Clean frequently.)
- Use a pad over the axillary bar to prevent undue pressure on ribs and arm.
- Preferably use crutches which are adjustable to individual patient's needs.
- Select type of crutch (axillary or Lofstrand) according to patient's physical condition, arm and trunk strength, and/or body balance.
- Lofstrand or Canadian crutches may be preferred because they allow the patient to adjust clothes or grasp objects without losing the use of his crutches.
- Do not allow patient to use crutches alone unless he has demonstrated the ability to use them correctly and safely.

Measurements (Do not give patient crutches until he is properly fitted.)

- *Axillary Crutch.* Measure the length from the armpit to a point 6 inches out from the side of the foot or measure the length from the armpit to foot and add 2 inches.
- Adjust the handbars so the patient's elbows are bent at approximately 30° angle.

NOTE: Either of the above measuring methods may be used with patient lying in bed, standing against the wall, or standing between parallel bars.

- *Lofstrand Crutch.* Adjust the length of the crutch to allow the elbows to be bent at approximately 30° angle with the crutch tips 6 to 8 inches to the side and in front of the foot.

Posture and Position

- **Stand as straight as possible.**
- **Look straight ahead, *not* down at feet.**
- **Bear body weight on hands, never on armpits, to prevent possible paralysis of hand and arm.**
- **Hug axillary bar close to body, against rib cage. This is the pivot point for the motion of the crutch.**
- **Place crutches about 6 to 8 inches in front of and 6 to 8 inches on each side of feet.**
- **One should be able to place two fingers horizontally between armpit and top of crutch.**
- **To allow for the proper tripod base never have the crutches and feet in the same line.**

Gait Patterns

- ***Four Point.* Move right crutch, left foot; left crutch, right foot. It is a simple, slow, but safe method; there are always three points of support on the floor.**
- ***Two Point.* Move right crutch and left foot simultaneously, then left crutch and right foot simultaneously. This requires more balance than the above method because only two points are supporting the body at any one time.**
- ***Three Point.* Move both crutches and the weaker lower extremity forward simultaneously and then move the stronger lower extremity forward. It is used by those having one lower extremity which cannot take full or any weight bearing and one extremity which can support the whole body weight.**

- ***Tripod Alternate.*** **Move right crutch, left crutch; drag feet forward (used by those unable to lift either extremity).**

- ***Tripod Simultaneous*** **(rocking horse gait). Move both crutches forward simultaneously; drag feet forward (used by those unable to lift either extremity).**

- ***Swinging To.*** **Move both crutches forward, then lift and swing body forward just short of the crutches.**

- ***Swinging Through.*** **Move both crutches forward, then lift and swing body beyond crutches. Skill, strength, and proper timing are required. Use swinging gait to lift body off the floor when there is a severe disability of the lower extremities.**

- ***Sideward Four Point.*** **Move right crutch to the right; right foot to right; left foot to right; left crutch to right.**

- ***Backward Four Point.*** **Move left foot back; right crutch back; right foot back; left crutch back.**

- ***Turning on Crutches.*** **Place one crutch in front of body, the other slightly to the side and rear; pivot feet or lift body in direction crutches were moved; repeat as often as necessary to make turn.**

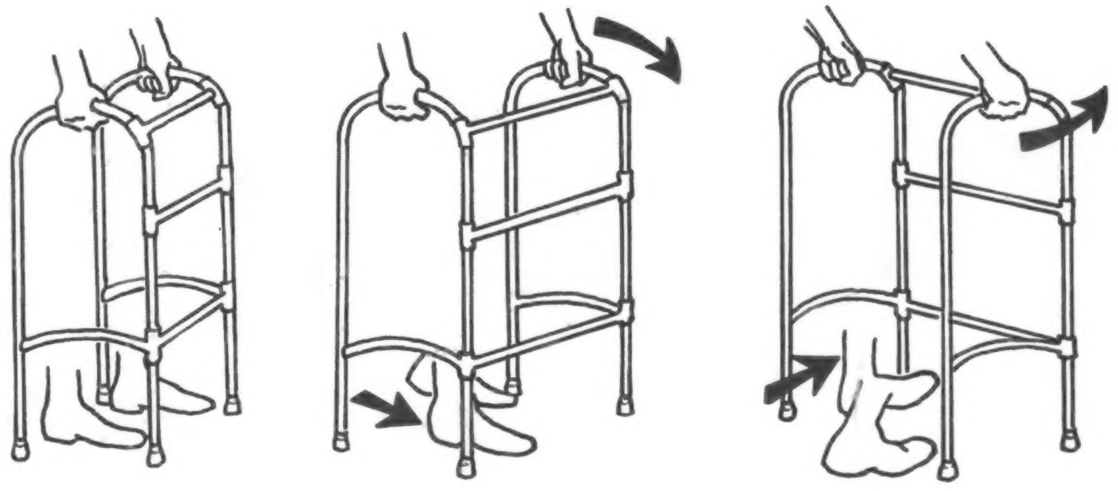
WALKER

- *Advantage of a walker.* It helps patient who feels the need for the security of the walker.
- *Disadvantages of a walker.* Patient puts so much weight and dependency on the walker while taking steps that it becomes difficult to wean him away from its use. It cannot be used on stairs.

Types

- *Standard* — a rigid four-legged frame used as a mechanical aid for stability and convenience in walking.
- *Reciprocal* — similar to standard in construction with additional feature of a hinge mechanism enabling the patient to move each side forward independently, thus allowing for reciprocal action.

NOTE: It is not advisable to use walkers with wheels as the wheels reduce the stability factor of the walker thus creating a potentially unsafe piece of equipment.



Considerations

- Use safety rubber suction tips to prevent slipping. Check tips regularly and replace when worn and no longer safe. Clean frequently.
- Preferably use walkers which are adjustable to individual patient's needs.
- Do not allow patient to use walker alone unless he has demonstrated the ability to use it correctly and safely.

Measurements

- Adjust the height of the walker to allow elbows to be bent at approximately 30° angle.

Posture and Position

- **Stand as straight as possible.**
- **Look straight ahead, *not* down at feet.**

Gait Patterns

- ***Standard.* Move walker forward, then right foot, then left foot.**
- ***Reciprocal.* Use either of the following:**
  Move right side of walker; then left foot; left side of walker, then right foot; or move right side of walker and left foot simultaneously; then left side of walker and right foot simultaneously.

NOTE: Some crutch patterns may be applied to the walker depending on individual patient needs.

CANE

The use of a cane requires good control of the trunk and strength in arm and hand.

Types

- *Standard cane* — available in a variety of materials such as aluminum or different woods.
- *Four-legged cane* — has a handgrip similar to a shovel, has four legs and is usually made of aluminum.

Considerations

- Use safety rubber suction tips to prevent slipping. Check tips regularly and replace when worn and no longer safe. Clean frequently.
- Preferably use cane which is adjustable to individual patient's needs.
- Select type of cane according to patient's physical condition, arm and trunk strength, and body balance.
- Do not allow patient to use cane alone unless he has demonstrated the ability to use it correctly and safely.

Measurements

- Measure cane according to type of gait pattern used by patient. (See Gait Patterns, page 53).

Posture and Position

- **Stand as straight as possible.**
- **Look straight ahead, not down at feet.**

Gait Patterns

- ***Mainly for weight bearing.*** **Carry cane on side of leg; keep elbow stiff and the cane along side of weak leg, bearing part of body weight on the cane as you step forward with good leg. This cane is measured so that the arm can be straight when bearing weight on the cane.**
- ***Mainly for balance.*** **Carry the cane on the side opposite to weak leg; move cane forward; weak leg steps forward; good leg forward. This cane is measured to allow for a 30° bend of the elbow.**

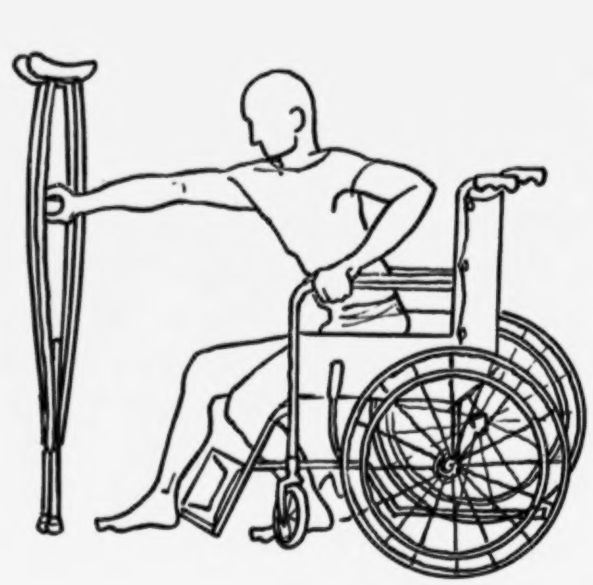
ELEVATION ACTIVITIES

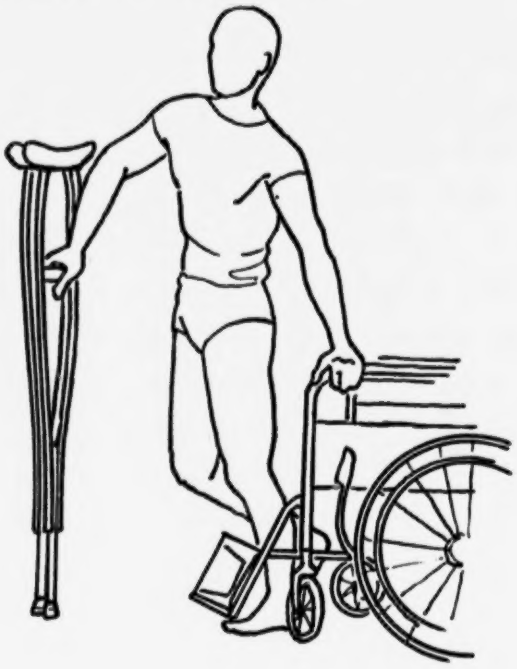
These procedures are given to enable patient to go from a sitting position to a standing position; to climb stairs, curbs, and ramps.

CHAIRS

Armrests (includes wheelchair and any chair with armrests.)

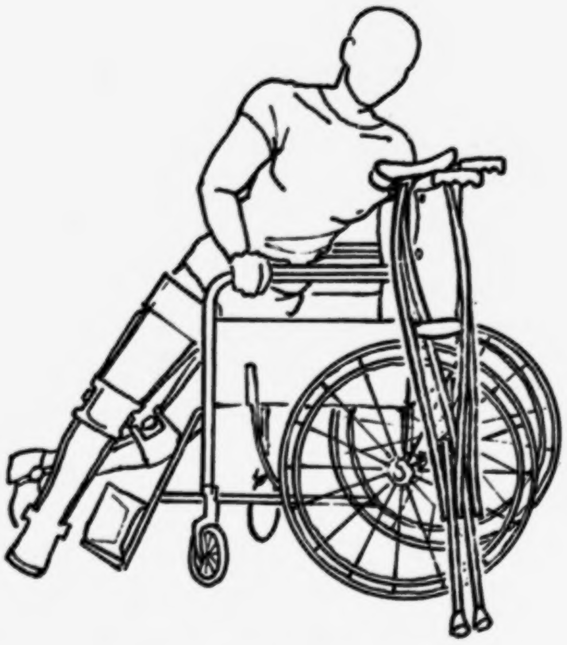
- ***Patient has some leg power.*** **Place chair, or wheelchair with brakes locked, with back against the wall or a stable surface; slide body to front edge of chair; place better leg back under the edge of the chair. Holding both crutches by the handpieces with one hand and placing the other hand on the armrest of the chair push on hands, straightening the better leg, and bring body to standing position. Balancing on better leg and crutches transfer one crutch and then the other to underarm position. Reverse procedure to return to sitting position.**

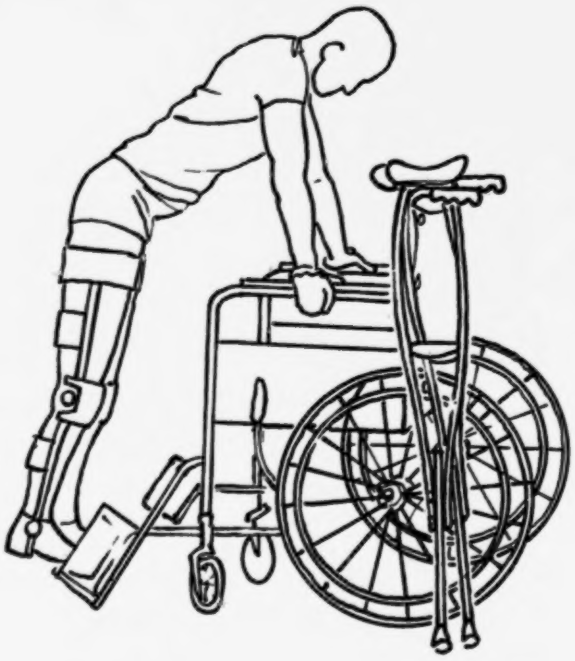




Armrests—*continued*

- ***Patient has no leg power but has long leg braces.*** Place chair in same position as above; lock one brace at the knee and cross this leg over foot of other leg; turn upper part of the body toward the unlocked leg until the head and shoulders are facing the back of the chair. Grasping the armrests with both hands, push body upwards (this allows the legs to turn in the same direction as the head and shoulders) until leg with locked brace is supporting the body. Lock the brace at knee of other leg. Place crutches under arms, one at a time, shifting body weight from chair to crutches and bring trunk upright. Back up a few steps until crutches are clear of the chair before attempting to turn in the desired direction. Reverse procedure to return to sitting position.





No Armrests (same procedure may be used for the toilet seat)

- ***Patient has some leg power.*** With chair in same position as above, proceed in same manner but sitting sideways on the chair. Place one hand on handpieces of both crutches and other hand on the back of the chair or top of the water tank, push up on hands until body is in standing position. Place crutches one at a time in underarm position. Reverse procedure to return to sitting position.

- ***Patient has no leg power but has long leg braces.*** Proceed in same manner as with the chair with armrests except that you place your hands on the seat of the chair initially, and then "climb" your hands up the back of the chair until they are on the top of the chair back. Place crutches, one at a time, under arms as before. Again clear the chair before turning in the desired direction. Reverse procedure to return to sitting position.

STAIRS

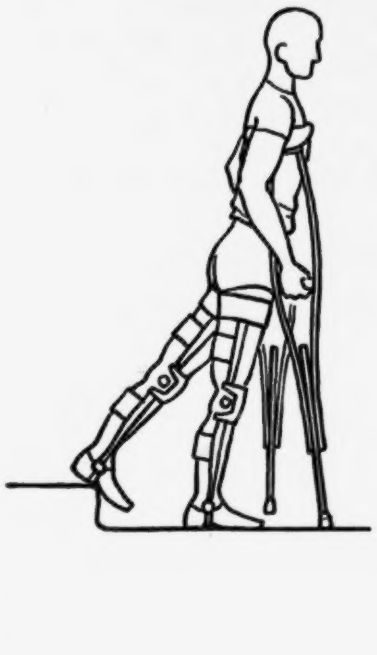
- *Patient has some leg power.* Place one hand on bannister and both crutches under opposite arm; balance weight on hands and arms; step up with stronger leg; straighten stronger leg, thus lifting other leg and crutches. Continue up the stairs repeating the same pattern. Going down the stairs, move the crutches forward first then the weaker leg, thus allowing the stronger leg to take the load of lowering the body weight.

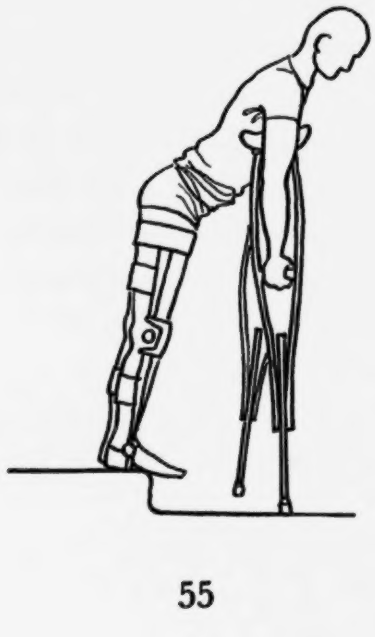
- *Patient has no leg power but has long leg braces.* Place one hand on bannister and both crutches under opposite arm. Push on both hands and lift body and legs up the step. Bring crutches up to the step. Repeat in the same pattern up the stairs. Going down the stairs, move the crutches down onto the next step and then, bearing the body weight on the hands, swing both legs down to that step. Proceed in same pattern down the stairs.

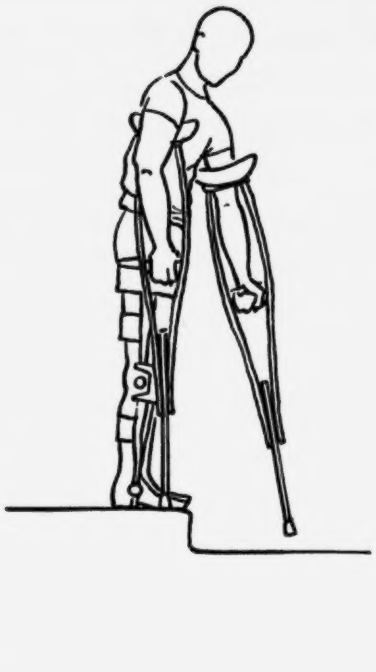
CURBS

- *Patient has some leg power.* Approach the curb, secure good balance on the crutches; step up on curb with stronger leg, straighten stronger leg thus lifting the crutches and weaker leg up on the curb. Going down off the curb move the crutches down first, then the weaker leg followed by the stronger leg.

- *Patient has no leg power but has long leg braces.* Back up to the curb and, balancing on the crutches, swing one leg back and upwards onto the curb. Continuing to lean into both crutches, shift weight onto leg which is up on the curb and swing other leg back and upwards onto curb. Bring shoulders back so that body is arched backwards; walk crutches back to edge of curb. Balancing and supporting body on both legs and one crutch, lift the opposite crutch up onto curb; shift weight onto this crutch and bring the second crutch up on the curb. Going down off the curb reverse the procedure.







RAMPS

Ascending and descending ramps are not common daily activities; however, since you may have a slanting surface in your home or may encounter sloping sidewalks, it is important that you learn to manipulate your crutches on a ramp.

Ascending and descending may be done by either of two methods —

- **Standing facing the ramp, place both crutches separately or simultaneously on ramp. Move body forward by pushing on crutches and advancing feet to position just short of same line as crutches.**
- **Standing sideways with right shoulder toward the ramp, use the sideways Four Point Gait. Move right crutch to right, right foot to right, left foot to right and left crutch to right. Continue in same pattern up or down the ramp.**

WHEELCHAIRS

The wheelchair is used by persons with a variety of handicapping conditions, and a variety of factors must be considered in selecting the proper chair for the individual. The techniques of how to use the wheelchair also vary according to individual patient needs.

CONSIDERATIONS FOR SELECTION

Types

- *Universal* — the chair with the larger wheels in the back. It is used both indoors and outdoors; promotes better posture, permits easier transfer activities, and can be tilted to go up curbs and stairs.
- *Traveler* — the chair with the larger wheels in front. It is used only indoors or on level surfaces; promotes poorer posture; is more difficult for transferring activities and cannot be used for curbs or stairs.
- *Amputee* — the chair with the rear wheels set back. It maintains safe balance by compensating for loss of patient's weight in front due to amputation. Footrests and legrests are available for unilateral amputee or patient wearing prosthesis.
- *One-Arm Drive* — the chair propelled by having both handrims on one side. It may be prescribed for those who have only one good arm, such as the hemiplegic or the amputee. This chair is too wide for most doors, is difficult to learn to use, and is a needless expense as most one-armed patients can be taught to use the Universal type wheelchair.
- *Power-Driven* — the chair propelled by a motor. It should be used only by patients with no possible means of self-propellment.

SIZES

- Adult
- Adult, extra wide
- Junior
- Child

ACCESSORIES

The individual needs of the patient must be the first consideration in selecting the accessories on a wheelchair. These accessories are important factors in accomplishing daily living activities and in maintaining proper body alignment or patient comfort while patient is in the wheelchair. Accessories should be selected by someone able to analyze the patient's disabilities and potential ability.

- *Brakes* — *not* standard equipment on the wheelchair, therefore must be specifically ordered. *Every* wheelchair should be equipped with brakes for the safety of the patient.
- *Wheels* — 5-inch front casters are standard equipment on wheelchairs; however, the 8-inch caster can be ordered and allows for better control of the wheelchair by the patient for turning, rolling over rough surfaces, and maneuvering in small spaces. Handrims with projections can be ordered for the patient who is unable to grasp a regular handrim for propelling his wheelchair.
- *Armrests* — upholstered armrests may be desired for the patient's comfort. Removable arms may be necessary to allow the patient to perform transfer activities. The armrests may be equipped with button locks to increase stability. Desk arms can be ordered if accessibility to a desk or table is necessary.
- *Backrests* — backrests adjustable to partial or full reclining positions may be ordered for the patient who is unable to sit in an upright position all the time. Zipper backs may be ordered for the patient who finds it necessary to slide in and out of the back of the chair for transfer activities. Removable headrest extensions can be ordered for additional back and head support.
- *Legrests* — adjustable legrests may be ordered for the patient who must have one or both extremities elevated. Swinging detachable legrests may be ordered to allow the patient a closer approach in transferring.
- *Footrests* — heel loops which prevent the feet from slipping off the footrest may be ordered for one or both feet as needed. A heel strap may be substituted for individual heel loops if it is necessary for both feet to be held on the footrest. Toe loops for maintaining proper positioning of the foot on the footrest may be ordered.
- *Seat Cushions* — foam rubber seat cushions in 2-inch or 4-inch heights may be ordered for the patient's comfort and as an aid to prevention of pressure areas.

CARE

Proper care of the wheelchair is as important as the care of an automobile. With a little regular attention, the wheelchair can be kept in good condition and its life and usefulness can be prolonged.

- *Cleaning.* Wipe all metal-chrome parts once a week with a damp cloth and protect them with a light coating of a general purpose household oil applied with a soft cloth. Sponge leather upholstery with a damp cloth and clean with saddle soap. Be sure to dry both chrome and leather whenever they are wet.

- *Lubrication.* Oil the center bolt of the cross bars and the attachment of brakes to lower side bars. Grease both front and rear wheel axles with vaseline or any grease lubricant. (This is generally necessary only on a yearly basis.) Apply paraffin wax when needed to any telescoping parts, such as adjustable backs, removable arms, footrests, and extensions. DO NOT OIL OR GREASE THESE PARTS.

- *Miscellaneous.* Be sure to keep nuts, bolts, screws, etc., tight, and if any part breaks have it repaired by an authorized wheelchair repairman. Be sure to use a wheelchair wrench for adjusting footrests.

TECHNIQUES

Using both arms

- ***Forward.*** **Grasp the handrims as far toward the back of the wheels as possible and push both wheels forward at the same time. It is less fatiguing to use long, even strokes to propel wheelchair.**

- ***Turning.*** **To turn a corner, push the wheel on the opposite side from the direction you want to turn and hold the other wheel still. To turn around in a small space, place one hand forward on one handrim and the other hand back on the opposite handrim; pull with the forward hand and push with the back hand at the same time.**

Using one arm and one leg

- ***Forward.*** **Pushing one wheel only will automatically turn the chair in a circle; therefore, push the wheel with the one good hand and at the same time use the one good foot to pull the chair in opposition, thus countering the turn and allowing the chair to go forward.**

- ***Turning.*** **Toward affected side—use only the hand to turn the wheelchair. Toward unaffected side—reach across to the opposite wheel with good hand and, using the foot in the same manner as in the forward movement, turn the wheelchair.**

Activities of Daily Living

Activities of daily living are commonly referred to as ADL. They are daily necessities of self-care which are done automatically by the adult, are taught to the child, but which may be neglected by the elderly. The nurse is responsible for determining the reasons why the patient is not performing his self-care activities. The patient may need to be reminded, remotivated, or retrained. Awareness of the specific problem of the individual patient is essential for a successful ADL program.

BASIC SELF-CARE ACTIVITIES (ADL)

BED ACTIVITIES

Moving from side to side when flat in bed.
Rolling from side to side.
Turning over on to abdomen.
Rising from reclining to sitting position.
Turning from sitting position to dangling position.
Obtaining objects from bedside table.
Using trapeze, side rails, bed ropes, clothing, straps.

PERSONAL HYGIENE (GROOMING)

Caring for fingernails.
Washing hands and face.
Caring for teeth (dentures).
Shaving.
Applying cosmetics.
Combing hair.
Washing extremities (arms and legs).
Bathing (bed, tub, or shower).
Drying self after bath.
Cleansing after use of toilet (bedpan, commode chair, or bathroom).
Applying deodorant.

DRESSING AND UNDRESSING

Putting on or removing —
Night clothes.
Under clothes.
Shoes and socks.
Dresses, shirts, and slacks.
Corsets, braces, "bras", prosthesis, girdles, etc.
Tying ties, fastening belts, tying shoe laces, managing buttons, zippers, etc.

EATING

Buttering bread.
Cutting meat or any food (paring or peeling).
Eating with different utensils (ability to hold the utensil).
Drinking (glass or cup) use of straw.
Passing dishes of food.
Stirring liquids.
Group eating.

HAND ACTIVITIES

Pressing signal lights or bells.
Writing.
Using telephone (holding receiver).
Sewing.
Making beds.
Dusting or cleaning rooms.
Turning lights off and on.
Lighting and smoking cigarette, cigar or pipe.
Turning pages of book, magazine, or newspaper.
Handling furniture and gadgets: drawers, doors, faucets, keys, etc.
Using reachers (from bed, wheelchair, or chair to pick up objects).
Cleaning eyeglasses.
Winding and setting watch.

WHEELCHAIR ACTIVITIES

Moving from bed to wheelchair and reverse.
Moving from wheelchair to toilet seat.
Moving from wheelchair to tub.
Moving from wheelchair to shower (stool or bench).
Rising from wheelchair to standing position.
Transferring from wheelchair to automobile.
Propelling wheelchair.
Locking wheelchair brakes.
Raising and lowering foot pedals.
Propelling wheelchair through doorways over doorsills.
Propelling wheelchair on ramps (angle of ramp).

WALKING

Moving from bed to standing position.
Rising from wheelchair or any chair to standing position.
Using cane, crutches, walkers, etc.
Going through doorways with crutches, walkers or canes.

Walking on rough surfaces — loss of balance.
Climbing stairs.
Stepping up on or off of curbs.

TOILETING ACTIVITIES

Manipulating bedpan, urinal.
Manipulating clothing when using toilet stool.

PRINCIPLES

- Recognize the potential abilities of the patient and the reasons *why* he is not using these.
- Be aware that each self-care activity is made up of many individual steps and that inability to do any one of these will prevent the patient from accomplishing the activity independently.
- Bear in mind that understanding, patience, and consistency of instruction are essentials for teaching self-care.
- Allow the patient time to complete the activity without being rushed.
- Make verbal directions clear, simple, and brief.
- Learn which activity of daily living the patient is most interested in accomplishing.
- Give ADL training at the usual time of day for the activity.
- Recognize the patient's essential need for and use of good balance for independent ADL.
- Allow and encourage patient to do as much for himself as possible.
- Use adapted equipment only when absolutely necessary.

ADAPTATIONS

The following are some suggestions which may be used and adapted according to individual patient's needs. Success for the patient depends largely upon the inventiveness of both the nursing personnel and the patient himself. There are generally no standard procedures of ADL for these patients; however, the following adaptations for specific problems may prove helpful.

LIMITED RANGE OF MOTION

DRESSING

Recommended styles —
Larger size clothing, made of materials which have some stretch.
Adapted styles of clothing.
Larger buttons or zippers with a loop on the pull tab.
Recommended equipment —
Buttonhook may be helpful in buttoning.
Reaching tongs of all types.
Long shoehorn.
Elastic shoelaces.
Stocking aids:
    Garters attached to string.
    Garters sewed on metal loop at end of long handle.
    Garters sewed on wooden hoop at end of straps.
    Commercial aids.
Tabs sewed on clothing to facilitate use of hook on a long handle.
Mesh stockings are sometimes recommended for women.
Velcro fasteners.

FEEDING

Recommended equipment —
Built-up handles on utensils.
Elongated handles.
Plastic straw if ROM is limited in shoulder and picking up a glass or cup is difficult.
Plate guard or food stopper.

HYGIENE AND GROOMING

Recommended equipment —
Portable spray for bathing or for shampooing hair.
Reachers to hold washcloth, powder puff, etc.
Long handled combs, toothbrush.
Long lipstick.
Long handled bath brush with soap container in brush.
Extended handle for safety or electric razor.
Spray type deodorant.
Extended or built-up handles on water faucets.

INCOORDINATION

DRESSING

Recommended styles —
Large buttons, or loops attached to pull tabs on zipper.
Buttoners or buttonhooks.
Elastic shoelaces.
Trousers with elastic tops.

FEEDING

Recommended equipment —
Suction bases for holding dishes.
Plastic straws to eliminate spilling.
Plastic drinking glasses with lids.
Weighted utensils.
Plate guards to facilitate getting food on fork.
Spork (combination spoon-fork).

HAND ACTIVITIES

Recommended equipment —
Weighted pencils.
Weighted checkers.

HYGIENE AND GROOMING

Recommended equipment —
Rubber spool curlers may be easiest to manage.
Utensils attached to string if patient has tendency to drop articles.
Suction-cup hand brushes.
Soap bar attached to a cord around the neck for bathing.
Nail file taped down to a flat surface for filing nails.

IMPAIRED VISION

Specific principles for teaching patients with impaired vision —

- Emphasize the use of patient's sense of touch.
- Provide "landmarks" to aid patient in determining top from bottom, right from left, etc.
- Keep clothing, personal items, etc., in a definitely planned place.

DRESSING

Recommended equipment —

Piece of textured material unlike the garment material sewed to right *or* left sleeve, back of neck and back of pants. The placement should be consistent on all of patient's clothes.

Alternate method for those who have partial vision: a colored thread or piece of material attached as above.

FEEDING

Procedure —

Teach patient where the food is placed by reference to the hours on a clock face; i.e., meat at 2 o'clock, vegetables at 4 o'clock. Be consistent as to food placement.

Teach patient to use a piece of bread as a guard against which he can scoop the food onto the eating utensil.

QUADRIPLEGICS

DRESSING

Recommended styles —

Zippers or snaps in long side seams of trousers.
Blouses cut with extra length to prevent pulling out from skirt waistband.
Velcro fasteners.
Loops on trouser waistband.

FEEDING

Recommended equipment —

Leather cuff to hold fork or spoon.
Spork.
Swivel spoon, with or without stops.
Plate guard for aid in getting food on spoon.
Suction cup to hold plate.
Long plastic straw.

GROOMING

Recommended equipment —

Leather cuff to hold razor, toothbrush, comb, etc.

MINOR ACTIVITIES

Recommended equipment —

Robot smoker.
Electric page turners.
Mouth stick for turning pages, painting, typing, writing, dialing telephone, etc.
Leather cuff to hold attachments for typing, writing, and painting.

PARAPLEGICS

DRESSING TECHNIQUES

In general, clothing is put on in the following order — under garments, stockings, braces, trousers, shoes, and shirt or dress.

Men's trousers, shorts, and women's slacks and underwear.

Recommended styles —
Slacks are easier to fasten if they button or zip down the front. In some instances slacks with long zippers in the side seams are easier to pull over braces.

Procedure —
Patient sits on bed and pulls his knees into a flexed position.
Holding the top of trousers, he flips trousers to his feet.
He works pants legs over his feet and pulls pants up to his hips.
In a semi-reclining position, he rolls from hip to hip and pulls the garment up over hips.

Comments —
Reaching tongs are sometimes necessary and useful.

Stockings

Recommended styles —
Stockings with tight elastic bands should be avoided.
Service weight nylons are recommended for women.
Stretch socks are sometimes recommended for a smooth fit.
Procedure —
While sitting on bed, patient flexes knee with one hand and slips stocking on with other hand.

Comments —
Stockings should fit smoothly since any wrinkles may cause pressure areas.
Reaching tongs are sometimes indicated.

Slips and Skirts

Recommended styles —
Slips a size or two larger than usually worn.
Full skirts for ease in pulling over hips and for better appearance over braces.

Procedure —
Patient sits on bed, slips garment over head and lets it drop to waist. In a semi-reclining position, she rolls from hip to hip and pulls the garment down over the hips and thighs.

Shoes

Recommended styles —
Shoes should fit well and offer firm support.

Procedure —

- Method I: In sitting position on bed, patient pulls one knee at a time into flexed position with his hands. While supporting leg in flexed position with one hand, he uses the free hand to put on shoe.
- Method II: Patient sits on edge of bed, or in wheelchair for back support. He crosses one leg over the other and slips shoe on.

Shirts, pajama jackets, robes, and dresses opening completely down the front.

Recommended styles —
Wrinkle-resistant, smooth, durable material.
Action-back blouses, roomy sleeves, full skirts which slip easily over the hips.

Procedure —

- Patient may balance body by putting palms of hands alternately on mattress on either side of body.
- If balance is poor, he may be given assistance or the bed backrest may be elevated. (If backrest cannot be elevated, one or two pillows may be used to support the back.) With backrest elevated, both hands are free.
- Method of putting clothing on does not usually create a problem; however, if difficulty is encountered the following method is suggested: With garments open on the lap, collar toward patient's chest, put arms into sleeves and pull up over elbows. Then, holding on to the shirttail or back of dress, pull over head, adjust and button.

Hygiene and Grooming

Recommended Equipment —
Spray hose for bathing. (Patient should keep a finger over the spray to detect sudden temperature changes in water.)
Long handled bath brushes with soap insert for ease in reaching all parts of the body.
Soap bars attached to a cord around the neck.
Wheelchair covered with a sheet of plastic for sponge bath in chair.

Skin Care

Adequate care of the skin is important in the prevention of pressure areas (redness of the skin due to a part of the body bearing its weight in one position for too long a time) and prevention of bedsores. Skin care is the *responsibility* of the *nursing* personnel.

RULES FOR SKIN CARE

- Keep patient clean and dry — of prime importance in skin care.
- Use oil or lotion, preferably one containing lanolin, for lubricating dry skin.
- Include inspection of patient's skin in the daily routine. Watch for —
  Irritation and chafing due to bed linen, braces, and clothing.
  Redness, particularly at pressure areas on bony parts of the body.
  Dryness of the skin, especially of the feet, elbows, and mouth.
- Do not allow patient to remain in any one position for a prolonged period of time as this contributes to pressure areas. Change patient's position at least every 2 hours or more often if patient's condition warrants.
- See that patient who is in a wheelchair or chair for several hours has a change of position. Periodic walks or rising to a standing position will give the necessary change.
- Encourage patient to stand whenever possible, using the foot of the bed, crutches, parallel bars, back of chair, wallbars, etc., for support when necessary. Standing stimulates circulation to legs and feet and helps prevent bedsores by relieving pressure areas.
- Make sure patient has proper bed positioning and body alignment to prevent pressure areas and deformities.
- Emphasize importance of bowel and bladder control in preventing pressure sores. A wet bed causes chafing and redness to the skin.
- Thoroughly clean incontinent patient with soap and water to prevent odors, chafing and bedsores.
- Keep linens clean, dry, and free from wrinkles and crumbs that may cause skin irritation.
- Avoid using rubber rings and "doughnuts" as they tend to lessen the circulation and cause other pressure areas.
- A diet containing the essential nutritional elements is basic to good skin condition.
- Look for signs of potential bedsores before patient reports discomfort; the skin of the older person may have reduced sensitivity.
- Examine the area and begin preventive care immediately when patient complains of a sore back, heel, or any other area where there is pressure.

Personal Hygiene

Cleanliness and a neat appearance are just as important to the patient as they are to the nurse. The nurse is responsible for assisting the patient to keep himself clean and attractive. To do this, the nurse must have a good understanding why cleanliness is so important to the patient's welfare.

Personal hygiene serves an important purpose in rehabilitation in addition to that of cleanliness. The tasks the patient performs in personal hygiene are a part of self-care, an activity that works toward independence, and by doing as much of his personal care as he is able to, the patient uses his exercises and increases his strength.

OBJECTIVES

- To aid the patient in developing good health habits in bathing, oral hygiene, and the care of fingernails and toenails.
- To improve the patient's morale and give him a sense of well-being.
- To stimulate the patient's pride in his personal appearance.

BATHING

The elderly patient should not take baths too frequently because his skin tends to be dry. However, his bath should be a pleasant experience. How often he takes a bath should be determined by his needs, but he should bathe thoroughly at least once or twice a week.

SHOWER BATHS

- A shower stall is usually easier than a tub for the older patient to use.
- A chair or a bench may be used inside the shower stall to allow the patient to sit while taking his shower.
- A wheelchair patient may be transferred onto a shower chair, thereby extending this means of bathing to a larger number of patients.
- Water temperature should always be checked closely and regulated so that it feels comfortable to the inside of the nurse's wrist. This is done to avoid burning the patient, as the older patient may have lost skin sensitivity and may be burned easily.
- Shower baths may be strange and unheard of to some patients. Always try to avert a patient's fear by showing him the shower, explaining how it works, and assuring him that you (the nurse) will be there to help him.

TUB BATHS

- Many patients are used to tub baths, but usually need help in getting in and out of the tub so that they do not fall.
- Grab rails should always be available near the tub so that the patient will have something to grasp while getting in and out of the tub.

BED BATHS

- Encourage the use of tub or shower instead of bed baths.
- If bed baths must be given, have patient do as much of his own bathing as he can.

ORAL HYGIENE

- Oral hygiene (cleaning and care of the mouth) should be done morning and night.
- The patient should be taught to care for his own mouth and teeth, if at all possible.
- Dentures, as well as patient's own teeth, should be carefully cleaned as they become very foul smelling and soiled when neglected. If the patient cannot or will not devote this care to his dentures, it should be done for him.

CARE OF THE NAILS

- Patient's hands and feet should be cared for. This is important for the patient's comfort as well as for his health.
- Hands and feet should be kept clean.
- Nails should be cared for at regular intervals, at least once a month; however, a check for hangnails and sharp corners or points on nails should be made daily.
- Hands and feet should be soaked in warm, soapy water before the nails are trimmed. Remember warm, not hot, water should be used because many older people have experienced a loss of feeling for extreme temperatures to the hands and feet.
- Nails should be cut straight across and not too short. A blunt scissors should be used for cutting and an emery board for filing so that underlying tissues are not injured.

CARE OF THE HAIR

- Shampoos should be given at regular intervals, at least once a month, and according to patient's need.
- Women should be given attractive hair styles to stimulate pride in personal appearance.
- Men should be shaved daily, also as a stimulus to pride in appearance.
- Hair combing and shaving should be a part of the morning care routine, and patients should be encouraged to do this for themselves whenever possible.

CLOTHING

- Clothing should always be kept clean and attractive.
- Patients should not be kept in pajamas and robes during the day.
- The wearing of dresses, shirts, trousers, and shoes should be encouraged.
- A change of clothing depends upon the patient's needs, but clothing should be changed at least twice a week.
- Clothing should be comfortable and of a type that patients are able to put on themselves; for example, loose fitting clothing, and dresses that open down the front.
- Care should be taken to see that the circulation to any part of the body is not hindered; for example, rolled leg garters which lessen circulation to the legs and feet should be avoided. For those who do not wear a girdle or something similar, a garter belt can be used (either bought or homemade).

GUIDE TO SELF-CARE

Although patients should help themselves as much as possible, remember to instruct the patients *how* to do self-care. Encourage them to do as much as they can, and praise the patients for their attempts and progress.

BATHROOM CARE

- Take the patient into the bathroom to wash at the basin or encourage him to go to the bathroom himself if he is able rather than washing at the bedside table.
- Allow the patient to take his time.
- Encourage the patient to wash himself and to use a deodorant. A deodorant may be something entirely new to the patient so explain the reason for its use.
- Have the patient take care of his oral hygiene at this time as it is easier and safer for him to clean his dentures while at the basin.
- Encourage the male patient to shave himself or give him assistance if needed. The patient should have and use his own mirror and razor, whether an electric or a safety razor. If this is not possible, use an adequate disinfection procedure between patients.

SPONGE BATH AT THE BEDSIDE

- See that the patient is in a comfortable position in bed or is sitting at the side of the bed.
- Encourage and assist the patient to wash himself as much as he is able to.
- Supervise oral hygiene, hair combing, and dressing and give assistance only when necessary.

Bowel and Bladder Training

INCONTINENCE

Incontinence is the loss of control of either bowel or bladder or both. Some of the common causes of incontinence are spinal cord injury, disease, infection, loss of sphincter (muscle) power, loss of bladder tone, disorientation due to drugs, or lack of interest on the part of the patient or nurse in maintaining or establishing control.

PATIENT ATTITUDES

Patients may display a variety of emotions or behavior as a result of the loss of bladder and bowel control. Some of the most common behavior symptoms are nervousness, embarrassment, disgust, anger, feelings of rejection and shame. Other patients may show a complete lack of interest or seem to use their incontinence as a means of getting attention.

NURSE ATTITUDES

The nurse must show sympathy and understanding toward the patient and a great deal of patience, tact, and persistence. Giving constant encouragement or simply extending hope that it is possible to overcome his bowel and bladder problem may be enough to gain a patient's confidence and cooperation. Remember that this relearning of control is a long process and a difficult one at times.

OBJECTIVES

The two major objectives of a bowel and bladder program for the individual patient are: (1) To help in the establishment of a pattern for control of bowel and bladder functioning, and (2) To prevent urinary and bowel incontinence, thereby obtaining greater independence for the patient.

SUGGESTED PROCEDURE FOR BOWEL AND BLADDER ROUTINES

Each patient needs careful and complete medical evaluation to determine whether there are physical causes contributing to the incontinence. There may also be social and emotional factors present which need evaluation. The bowel and bladder program must be carefully explained to the patient including the reasons for it and the results expected which will benefit him as an individual. Additional effort by the nursing personnel to motivate the patient will undoubtedly be necessary.

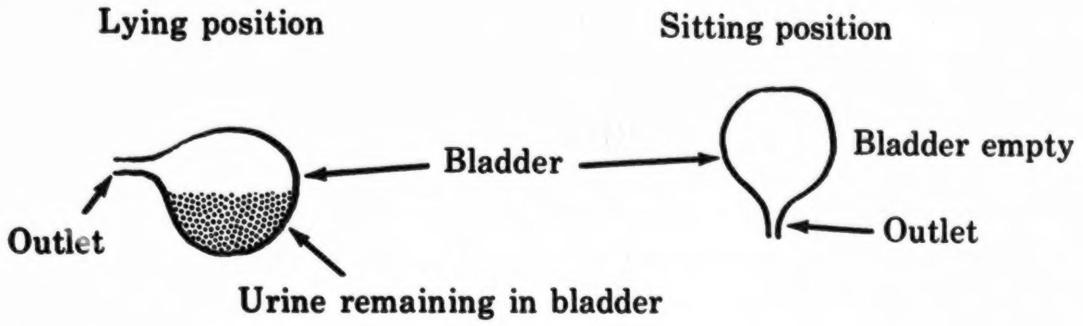
The plan and procedure must be explained to the nursing personnel. Motivation may be needed for this group as well as for the patient.

All of the following factors must be considered of equal importance in working out a program for an individual patient. Any program for establishing a pattern for control of bowel and bladder requires the support and cooperation of nurses on all shifts.

Water. Liquids should be offered frequently as most older people do not drink a sufficient amount of water. Drinking water is very important for better function of both bowel and bladder. Simple constipation can be reduced by merely drinking water.

Position. Correct toilet position is of prime importance.

- The correct or normal position is a sitting position. A sitting position aids in emptying the bladder or colon as completely as possible, thus lessening incontinence.
- Using a toilet is better than using a commode chair. When toilets or commode chairs are not available, improvise by placing a bedpan on a straight chair.
- Patients using bedpans in bed should be placed in a sitting position. Patients using a bedpan while they are lying flat in bed *do not* empty their bladder and lower bowel completely.



Scheduling. Patients should be taken to the bathroom to use the toilet, assisted to a commode, or given the bedpan on a scheduled basis.

- Planning a schedule should be done by all of the nurses on all three shifts in order to cover the 24-hour period.
- Scheduling must be carried out on a daily 24-hour basis at regular intervals. The

recommended schedule is every 2 hours as a beginning and an increase to 3 and 4 hours as the plan progresses.

- Patients may need the physical assistance of the nursing personnel in going to the toilet.
- It is the nurse's responsibility to see that the patient follows the schedule, explaining to the patient the necessity of maintaining the intervals.
- Scheduling offers the patient security, and aids him in establishing a pattern.

Physical Activity. Physical activity helps stimulate bowel and bladder function and establish regularity. Whenever possible, patients should be transferred from the bed to a chair or commode or taken to the bathroom in a wheelchair to use the toilet.

Mental Activity. Recreational activities also support nursing procedures by giving patients things to do to occupy their time and minds or in giving them something to look forward to, as well as a reason for trying to establish control. Helping patients to focus their attention on something other than themselves is a tremendous aid in working toward improved bowel and bladder control.

Diet. It is of prime importance that the older person have an adequate diet containing the essential nutritional elements. This contributes to better elimination.

Patient's Normal Pattern. If the normal pattern of the patient can be learned from either the patient or his family, it should be considered in determining the schedule for the individual patient.

Time to Begin. All of the factors contributing to the problem of incontinence with the patient must be considered before determining when the chance for success seems greatest. This is the time to begin the program for control.

OTHER FACTORS TO BE CONSIDERED

Dentures. Other factors that should be considered are proper nutrition and the use of dentures when available. Using dentures allows for the proper chewing and mixing of foods. This aids in digestion, absorption, and elimination.

Laxatives and Enemas. The daily use of laxatives and enemas should be discouraged in order to avoid the laxative and enema habit. The use of laxatives and enemas does not allow the bowel to empty under its own power. It is desirable to encourage normal bowel functioning, and this can best be accomplished through the combined use of exercise, adequate diet, and regularity in bowel habits.

Mechanical Devices. Mechanical devices such as urinal bags, shower caps (filled with absorbent gauze), pads, and pants may prevent irritation and redness and decrease the amount of soiled linen. It is important to see that all devices, such as male urinal bags, fit the patient and that they are kept clean by frequent washing.

General Principles in Speech and Hearing Problems

SPEECH

Problems related to a specific condition such as aphasia (loss of language) with the stroke patient is the inability to understand language or to use language. The following are three classes of aphasia in which aphasic patients are most commonly placed —

- The *expressive* type of aphasia is observed in a patient when the inability to speak and write is predominant.
- The *receptive* type of aphasia is observed in a patient when the inability to understand speech and writing is predominant.
- The *mixed* type of aphasia is most frequently found among aphasic patients, for it is unusual to see a clearly defined aphasia.

Problems relating to poor speech habits and to physical conditions —

- There may be poor speech habits acquired in earlier life such as poor pronunciation, poor enunciation, and mumbling.
- There can also be difficulty in understanding speech from a lack of, or from poorly fitting, dentures.

Problems resulting from the emotional effect on a patient of not being able to communicate or make himself properly understood —

- The patient becomes frustrated and embarrassed at having to repeat. He may become irritable with the listener, or he may become depressed or agitated because he is misunderstood.

SPEECH TREATMENT

Adequate speech therapy programs are not numerous, but possible resources may be found in the community. Of course, speech training under the direction of a qualified therapist is the best answer to the speech problems of a patient. A therapist may be found at one of the following places —

Public schools and universities
Speech clinics
Crippled children and adults clinics
Hospitals or physical medicine and rehabilitation centers

Unfortunately, adequate programs of speech therapy for aphasic adults are not very numerous. The problem of providing an adequate program is doubly complicated because: (1) properly trained therapists are scarce and (2) speech therapy for aphasic patients is usually a long-term project. Often the only help with speech the patient receives is from the nurse. Following are a few suggestions which will help the nursing personnel understand the problems of the aphasic patient when he tries to communicate orally. This understanding should help the nurse in communicating with this type of patient and also contribute materially to improvement of the patient's and his family's frame of mind.

Suggestions

- Adopt the attitude that the patient's difficulty is that of being unable to express or understand the symbols of language, and is not a general intellectual loss. Assume that his general store of information, knowledge and understanding is still present — that his loss is only in his ability to communicate through language about these things he knows. (Just because he can't name objects in his room doesn't mean he has forgotten the words or doesn't know the uses of the objects; nor does it mean he doesn't know or recognize his friends and relatives because he can't say their names.)
- Avoid treating the aphasic patient with sympathy or pity at one extreme and impatience at the other. Treat him as an adult who is normal in all respects except for his communication difficulty.
- Encourage him to be as self-sufficient as physically possible.
- Encourage but *do not demand* speech; make every effort to understand what the patient is trying to say.
- Phrase questions so he may answer yes or no.
- Encourage patient to use speech and language in any way he can and as much as he possibly can (speaking, writing, and reading).
- If patient becomes fatigued or discouraged while working on speech, change or drop activity for the time and return later.
- Praise patient for efforts and successes and use these as a basis for encouraging future efforts.
- Speak to the patient slowly and distinctly, pausing frequently. Use short, simple phrases and sentences. It may also help if you write the message.
- Determine the type of communication problem: is it difficulty in understanding others or difficulty in expressing himself? Adjust your communication activity accordingly.
- Acquaint the relatives with these suggestions so that they can help with his problem. It is extremely important that they do not treat him as a child or as a mental deficient.
- Keep the patient occupied with constructive mental and physical tasks. Idleness will lead to brooding, discouragement, and depression.

HEARING

Many of the patients may not hear conversation at normal volume. The following information may aid in conversing with the deaf or partially deaf patient.

Mechanical aids for hearing —

- Evaluation of patient by physician is necessary before purchasing a hearing aid.
- The proper fit and the correct type of aid for the individual should be determined.
- The use and care of a hearing aid should be fully explained to the wearer by the examiner. Directions may need repeating as the older person forgets easily.
- Encouragement to use and accept the aid may be necessary because some individuals are sensitive about hearing aids and do not want people to know they wear one.

To help the patient hear without a mechanical aid the nurse should —

- Encourage conservation, even though it is difficult, so that the patient does not feel isolated socially because of his impaired hearing.
- Write the message as this may be more acceptable to the person, especially if he has used this method of communication before.
- Speak distinctly, slowly, and with voice volume increased moderately instead of shouting into the deaf person's ear. Repeat statements until the person understands them.

SUGGESTIONS

For better communication with deaf person whose speech is difficult to understand—

- Devote full attention to what he is saying. Look and listen — do not do anything else at the same time.
- Engage the patient in a conversation in which it will be possible for you to anticipate his answers. This helps you to become accustomed to his pattern of speech.
- Try to catch the essential content of what he is talking about and you can often fill in the details.
- Do not try to appear as if you understood him when you do not.
- If you cannot understand him and have a serious doubt that you ever will, have him write the message so there will be no misunderstanding. You may then have him repeat the message in speech which might aid you in learning his pattern of speech.

For better communication with deaf persons who lip read —

- When speaking to the patient, always face him as directly as possible.
- Make sure your face is as visible as possible; that it is well-lighted, and that patient's view of your mouth is not obscured. Avoid talking with an object in your mouth.
- Be certain the patient knows the topic of your conversation before going ahead with what you plan to say.
- Speak slowly and distinctly, pausing frequently.
- If you question that the patient has understood your instructions, recheck to be sure.
- If for any reason your mouth must be covered, write the instructions you are giving him.

Section III

Application of Rehabilitation Nursing in a Specific Disease

Specific Care for Hemiplegia

DESCRIPTION

Hemiplegia, or paralysis of one side of the body, usually is the result of a cerebral vascular accident. This condition is commonly called a "stroke". Because some of the nerve cells of the brain have been damaged and cannot function, the part of the body controlled by the damaged tissue cannot function. There may be loss of sensation as well as a loss of motor ability. The amount of loss in either of these areas will vary with individual patients. The initial stage of hemiplegia is the flaccid stage; the second is the spasticity stage; and third the relative recovery stage. However, a patient does not necessarily progress through all of these; he may stop at any one of them. These stages are not necessarily clear-cut, but may and do overlap depending on the individual patient.

STAGES

Flaccid stage — the affected side is weak, loose, and soft.

Spasticity stage — the affected side has marked tension of the muscles.

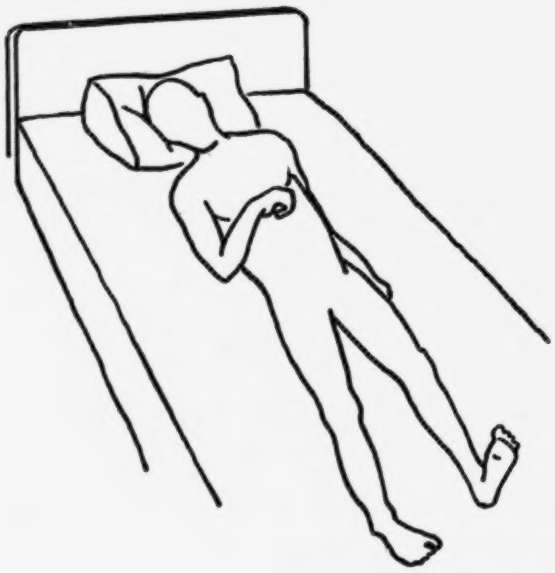
Relative recovery stage — the affected side has become comparatively free of any manifestation of flaccidity, spasticity, or paralysis.

TYPICAL PROBLEMS AND LIMITATIONS

- May have impaired speech. May not be able to communicate with or understand those around him.
- May show lack of comprehension when approached, spoken to, or given directions from the affected side.
- May have difficulty with vision; for example, he may be able to see only part of his meal tray or he may see double.
- May be unable to move the arm or leg on the involved side.
- May have impaired circulation on the involved side.
- May have loss of sensation in the involved side.
- May be inconsistent in his behavior and performance.
- May have poor memory and short attention span.
- May fatigue easily.
- May have poor balance in sitting or standing positions.
- May have difficulty with bladder and/or bowel control.

TYPICAL HEMIPLEGIC PATTERN

- Head is laterally flexed to the affected side.
- Arm is retracted, adducted, internally rotated at the shoulder, flexed at the elbow.
- Forearm is in pronation.
- Wrist, fingers and thumb are flexed.
- Leg is extended, outwardly rotated, and abducted at the hip.
- Knee is in extension.
- Foot is plantar flexed and inverted at the ankle.
- The entire involved side is slightly rotated backward.
- The body trunk tends to flex forward.



DEFORMITIES

The most common causes of permanent deformities in the hemiplegic patient are spasticity, improper bed positioning, and lack of movement. For example, joint motion is reduced daily by inactivity. The limitation of the joint will continue to increase and become noticeable within a couple of days. Remember — "an ounce of prevention is worth a pound of cure."

NURSING CARE

Purpose. The goal of nursing care of a hemiplegic patient is the maintenance and/or restoration of the patient's optimal level of physical and mental well being.

This is accomplished by —

- Prevention of joint limitation and further muscle weakness through proper positioning and exercises.
- Prevention of bedsores through frequent changes of position.
- Initiation and supervision of self-care activities.

TECHNIQUES

Positioning

The key to proper care of the patient is to position him out of the hemiplegic pattern. The patient may be placed in backlying, sidelying, or facelying position. Frequent changes of position help to put the joints through range of motion and prevent bedsores.

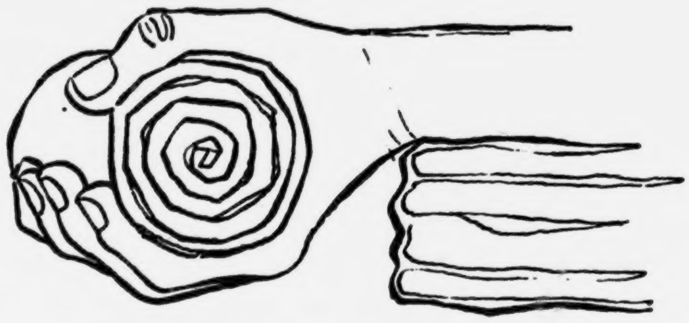
BACKLYING (SUPINE) POSITION

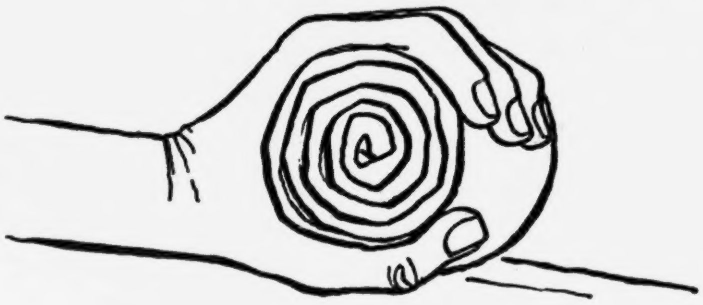
Head. Tilt toward unaffected side by use of a pillow.

Shoulder. Bring forward out of retraction, externally rotating and abducting upper arm as close as possible to a 45° angle. A pillow can be used to maintain this position.

Elbow. Place in slight flexion as close as possible to a 15° angle.

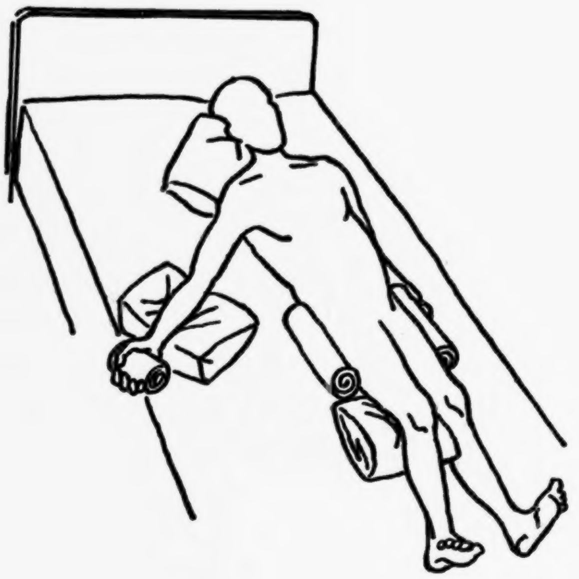
Wrist and hand. Forearm should be supinated and placed on a pillow, a bath blanket, or on rolled towels, allowing wrist and hand to hang over the edge of support (pillow, towels, etc.) so that gravity may aid in extending the wrist. This support also keeps the elbow in the flexed position. Place a hand roll across the palm of the hand, bringing the thumb around the roll opposite to the fingers. The hand roll should be large enough to prevent the fingers from touching the functional position.



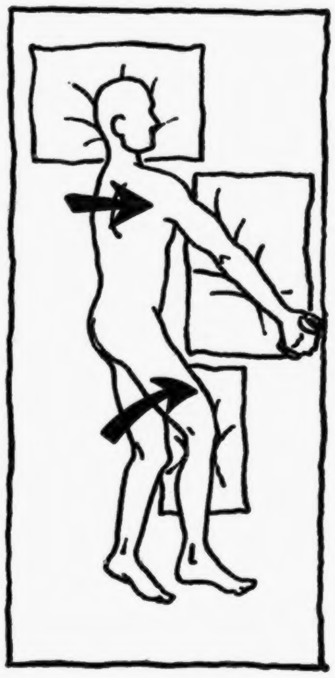


Hip. Upper leg should be flexed slightly, adducted and internally rotated. A trochanter roll* is used to maintain the adduction and internal rotation.

Lower leg. Place knee in slight flexion. This flexion diminishes extensor spasticity which is the cause of the plantar flexion of the foot. It is felt that this position is more effective than the use of a footboard in preventing "drop foot" in the hemiplegic patient. The patient when developing spasticity will press against the footboard thus increasing the undesirable plantar flexion and inversion at the ankle.



Backlying (supine)



Sidelying (lateral)

SIDELYING (LATERAL) POSITION

NOTE: In this position the patient should always be lying on his unaffected side.

Head. Pillow under head should allow head to rest in good body alignment and not be pushed toward affected side.

Arm. Bring shoulder forward out of retraction; place in 45° to 90° angle of forward flexion; slightly flex elbow; rest entire arm on a pillow with palm of hand down. A hand roll placed in the hand will maintain the wrist in extension and fingers in functional position.

Leg. Flex the leg at the hip; flex knee slightly; rest entire leg on a pillow or on support placed in front of unaffected leg. This allows gravity to assist in adducting and internally rotating the leg at the hip, if the pillow or support used is not too high. This position of the leg decreases undesirable plantar flexion and inversion at the ankle.

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*Trochanter roll is described in Section II, page 15.

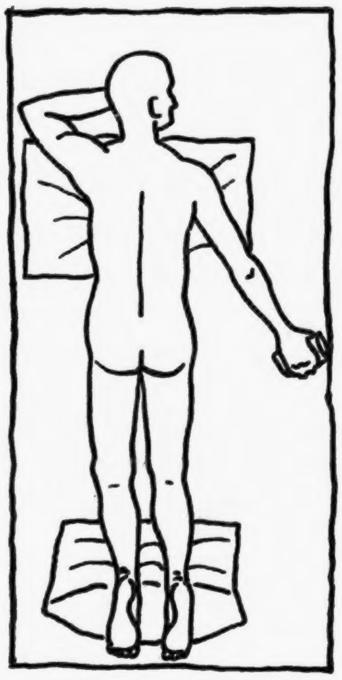
FACELYING (PRONE) POSITION

Head. Turn to side, resting on the bed.

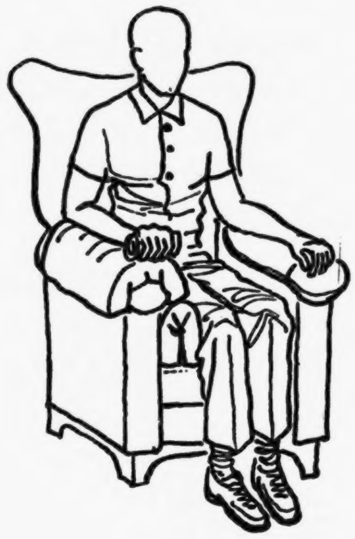
Trunk. Place a pillow under the chest which moves the trunk into extension and allows the head and neck to be more comfortable.

Arm. Rest arm directly on the bed, positioned in abduction and external rotation at the shoulder; elbow in extension; forearm in full supination; palm of hand down with hand roll in place. Roll maintains wrist in extension and fingers in functional position.

Leg. Place a rolled pillow, towels, or blanket under the patient's ankles so that the knees are in flexion, feet over edge of pillow with toes pointed straight toward but not touching the bed.



Facelying (prone)



Sitting

SITTING POSITION

NOTE: Chairs with armrests should be used for the hemiplegic patient. The armrests allow him to maintain better balance, position, and safety. The sitting position for the hemiplegic patient follows the same general principles as described on pages ..... on good body alignment with some exceptions which follow:

Positioning of lower back. When the patient has a tendency to fall forward, which is usually due to the spastic pattern of the hemiplegic, it is advisable to pull the buttocks forward an inch or two from the back of the chair. Besides counteracting the tendency to fall forward, this position gives the patient better sitting balance.

Positioning of affected leg and foot. Because of the hemiplegic pattern, it is necessary to *stabilize* the leg and foot in good alignment.

Positioning of affected arm and hand. Because there may be a partial dislocation of the affected shoulder due to weakness of the shoulder muscles, it is necessary to rest the forearm on a support high enough to keep the shoulder joint in place and the shoulders in good alignment. With the addition of a hand roll, the wrist and hand are also held in good position.

Head. In a sitting position, it is difficult to use any type of support for the head; therefore, the nurse must encourage the patient to hold his head erect and tilted toward the unaffected side.

RANGE OF MOTION

Positioning the affected leg out of the hemiplegic pattern will release the tension of the muscles in the affected arm, enabling an increased range of motion in the arm. To do range of motion exercises of the leg, position the arm out of the hemiplegic pattern.

PART I — DONE BY NURSE

Due to the hemiplegic pattern, the following range of motion exercises should be stressed:

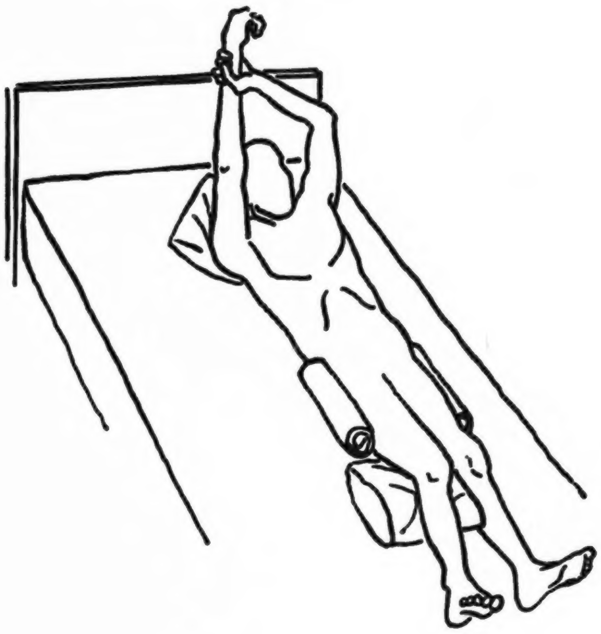
Head and neck — Lateral flexion toward the unaffected side
Extension
Shoulder — Protraction
Forward flexion
Abduction
External rotation
Elbow — Extension
Forearm — Supination
Wrist — Hyperextension
Fingers — Extension
Thumb — Extension
Abduction
Opposition
Hip — Adduction
Internal rotation
Knee — Flexion (should be done both with the hip flexed and in extension)
Ankle — Dorsi-flexion
Eversion

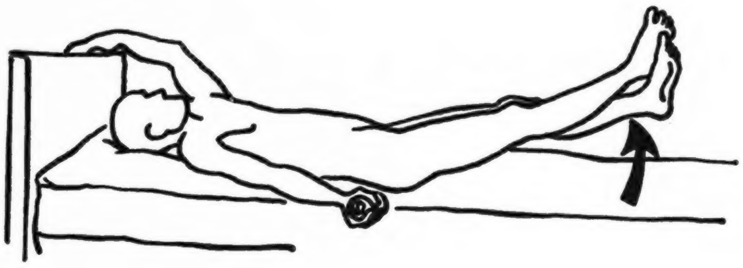
PART II — DONE BY PATIENT

As patient improves, he is able and should begin to do exercises by himself.

MANUAL

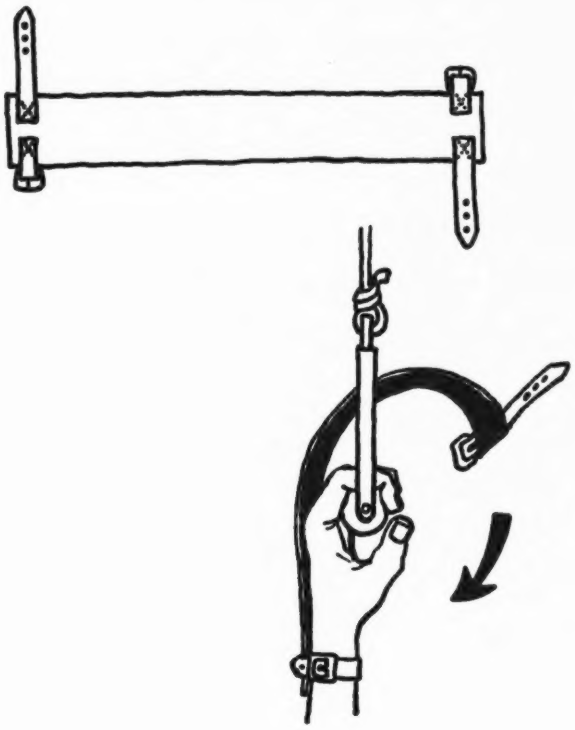
Using the good arm and leg, put affected arm and leg through range of motion exercises.

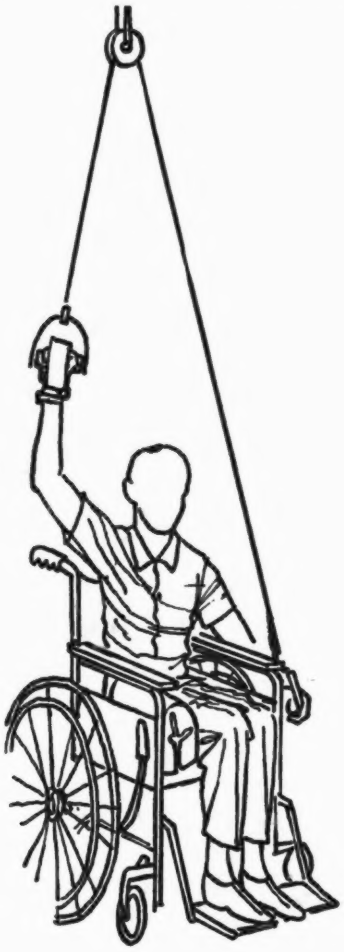




MECHANICAL AID

Using a pulley, you can put the affected arm through same range of motion exercises while you are sitting in a chair. The pulley can be attached on an over-the-door bracket, to an eyescrew in the ceiling or other adaptation. To hold affected hand on the pulley handle, use a strip of material with fasteners on each end. Pull the strip tightly over affected hand, which has been placed on the pulley handle, and fasten strip securely at the wrist, maintaining grip with affected hand. Using good hand on the other pulley handle, push down, thereby pulling affected arm up and through a number of combined moves.





Sitting with pulley rope and handles in front of you, do the following exercises:

***Shoulder*—Forward flexion**
Elevation
***Elbow* —Extension**
***Wrist* —Extension**

Sitting with pulley rope and handles to the side, do the following exercises:

***Shoulder*—Abduction**
Outward rotation
Elevation
***Elbow* —Extension**
***Wrist* —Extension**

TRANSFER ACTIVITIES

The hemiplegic patient follows the same principles of transfer as other patients follow with one addition—he always leads with his *unaffected* side.

BED TO BED

***Side to side*. Place good leg under affected leg and lift affected leg until knee is flexed and foot flat on the bed, then by pushing foot of good leg into the bed the hips can be elevated and moved to the side. Head and shoulders can be moved to either side by pushing or pulling on the side rails with good arm.**

***Rolling over*. In rolling to either side, the bent knee position utilizes the weight of the knees, when laid over, to partially roll the body. The rest of the body can be rolled by pushing or pulling on the side rails with the good arm.**

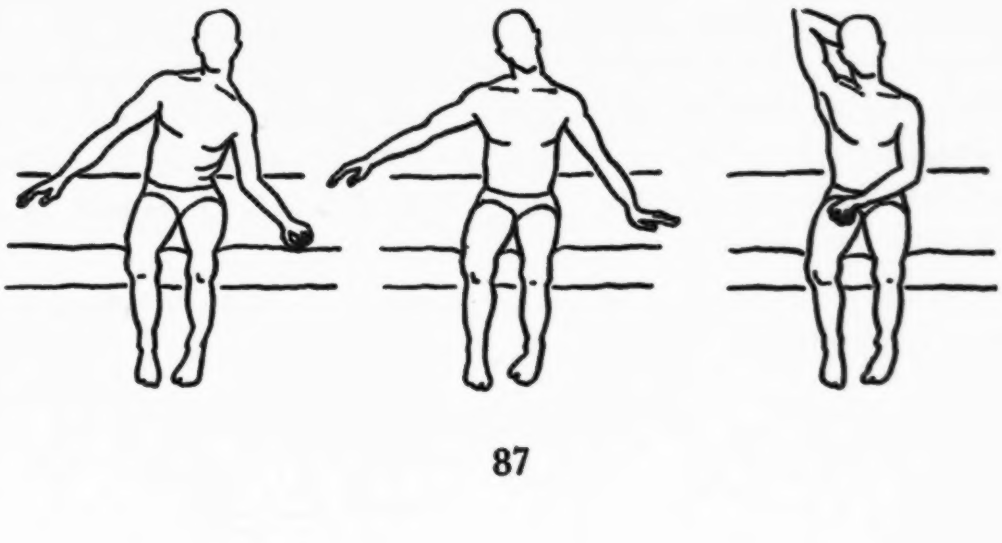
***Sitting up with legs still in bed*. Using a bed rope attached to the foot of the bed and grasping the rope as far down as possible with good hand, pull yourself to a sitting position without having to change your grip on the rope.**

NOTE: While in the sitting position, begin to practice balancing exercises, strengthening muscles needed for future transfer activities.

***Moving to dangling position*. Lie on your back in the center of the bed, placing affected arm across abdomen with good hand. Move legs to the side of the bed until feet and ankles are over the edge. Grasping the bed rope with good hand, pull to a sitting position which allows the legs to fall over side of bed into dangling position.**

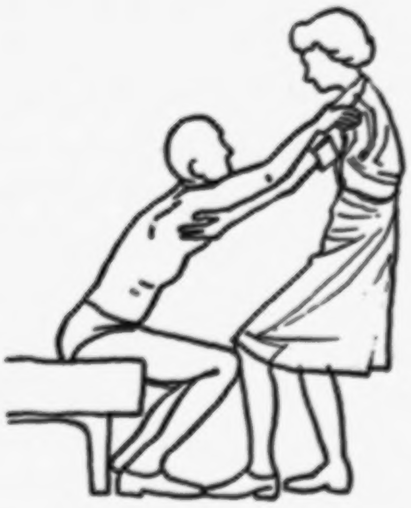
NOTE: In the dangling position, practice the following sitting-balance exercises—

- **Tilt head to the good side out of hemiplegic pattern.**
- **Keep affected leg adducted (nurse will support you if you are unable to maintain regular position).**
- **Balance by leaning on elbow of affected side.**
- **Balance by leaning on extended affected arm.**
- **Balance in sitting position without leaning on either arm and actively put good arm through range of motion exercises.**



Moving from sitting to standing position. **Sit on edge of bed facing nurse, feet flat on the floor. Nurse grasps you under arms near axilla, allowing your arms to rest on hers. Assisted by her, lean forward at hips with spine extended. Extend head and neck to look up at nurse. Keep affected leg supported by bracing your knee and foot against the nurse's knee and foot; bear as much weight as possible on affected leg while nurse assists you to standing position. To return to sitting position, reverse the procedure.**

NOTE: Use of above technique helps to train you out of a tendency to "rear" backwards when attempting to sit or stand.



BED TO WHEELCHAIR

Position wheelchair at an angle to the bed so that wheelchair will be closest to unaffected side when dangling position is assumed. *Lock brakes.* Move into dangling position with legs in the space between wheelchair and bed. Place good hand on the far armrest of the wheelchair; using a pivot movement bear the weight of your body on good hand and leg, and lift yourself into the wheelchair. To return to the bed, use the same procedure leading with unaffected side.

NOTE: The same procedure can be used in transferring from bed to a regular armchair making sure that armchair is stabilized and will not slip away from you.

WHEELCHAIR TO CHAIR

Position wheelchair facing and as close as possible to chair. The footrests of wheelchair should straddle whichever front leg of the chair allows you to lead with unaffected side in the transfer. *Lock brakes.* Slide forward to edge of wheelchair, place good hand on seat of chair; using a pivot movement bear the weight of your body on good hand and leg and lift yourself into the chair. To return to wheelchair, use the same procedure leading with unaffected side.

NOTE: The same procedure can be used in transferring from wheelchair to toilet seat, shower chair, or bench.

WHEELCHAIR TO BATHTUB

NOTE: It is recommended that you use a chair or a stool in the tub rather than lowering yourself to the bottom of the tub. If the wheelchair does not have removable arms, it will be easier and safer to transfer to a straight chair beside the tub before beginning the transfer into the tub.

Begin the transfer sitting on wheelchair or straight chair beside tub, with affected side toward tub. (This is the one time the hemiplegic patient leads with his affected side. The reason for this exception is that, because of the weakening effect of the warm water used for the bath, it is safer to lead *out* of the bathtub with the unaffected side.) Using unaffected arm and leg, push yourself to the edge of the chair and onto the edge of the tub. Pick up affected leg with good hand and place it in the tub. Again using good arm and leg, push yourself toward the chair in the tub. Lift good leg into tub. Pushing in the same manner as before, move onto the chair in the tub. Reverse the procedure to transfer out of the tub.

WHEELCHAIR TO AUTOMOBILE

Place wheelchair facing the door of the car; swing car door open to the lock position; move wheelchair forward as close as possible into the angle formed by the car door and the side of the car; *lock brakes*. Slide forward to edge of wheelchair. Place good hand on the arm of the chair or on the window sill of the car door and rise to a standing position. Bearing the weight of your body on good hand and leg, use a pivot movement to turn away from the car and lower yourself onto the car seat, keeping the upper part of the body bent forward to keep from hitting head on roof of car. Lift legs and feet into the car. Reverse the procedure to return to the wheelchair.

NOTE: The left hemiplegic patient is an exception to the rule of always leading with the unaffected side when transferring into a car.

AMBULATION

The hemiplegic patient, depending upon the extent of damage caused by the stroke and upon the stage of recovery, may use a wheelchair, a cane, or no mechanical aid for ambulation. The use of the cane or wheelchair is described in Section II (cane on page 53, wheelchair on page 58).

The same general principles as described in Section II will apply for the hemiplegic patients, plus the following:

- **Nurse should accompany oral directions with demonstration when patient has difficulty with comprehension.**
- **Nurse should approach the hemiplegic patient from the unaffected side.**

TECHNIQUES

The following are methods which may be used and adapted according to individual patient's needs. Again the inventiveness of both nurse and patient will be an important contribution to success in ADL.

DRESSING

Shirts (Method can be adapted to dresses.)

Recommended styles—
Loosely fitting sleeves.
Size or two larger than usually worn.
Full skirts, or dresses that slip easily over the hips.
Wrinkle-shed cotton, nylon, or seersucker.
Front-opening styles.

Procedure for putting on —

- **Method I (Preferred method)**

(1) To prevent the shirt from becoming twisted, grasp collar and shake shirt out with good hand. Position shirt on lap with inside of shirt *up*, collar toward chest. (When shirt is in this position, the label inside the shirt collar is facing up.)

(2) With good hand, position shirt sleeve for affected side so opening is as large as possible and as close to the involved hand as possible.

(3) Using good hand, place involved hand into shirt sleeve opening, then work the sleeve up over the elbow by pulling on garment. Pushing garment up onto arm, or threading arm through with good hand, is more difficult.

(4) Put good arm into sleeve, raising arm up to "shake" sleeve into position past the elbow.

(5) Gather the garment up the middle of the back from hemline to collar with good hand, then raise the shirt over the head. Duck the head and lean forward passing the shirt over the head.

(6) Adjust shirt by leaning forward and with good hand work shirt down past shoulders on both sides. Reach to back and pull tail of shirt down. Line up shirt fronts for buttoning.

(7) Button shirt starting with bottom button, which is in your full view.

- Method II (Used for patients who get shirt twisted, or who have difficulty in "shaking" sleeve down on unaffected extremity).

  (1) Position shirt as in Steps 1 and 2 of Method 1.

  (2) Using good hand, place involved hand into shirt sleeve opening and work sleeve onto hand. Do not *pull* up past elbow.

  (3) Put unaffected arm into sleeve and bring arm out and up to a position of approximately 180° shoulder abduction. The tautness of the material from unaffected arm to wrist on the involved side will bring the sleeve into position. Lower the arm, and then work the sleeve on involved arm up over elbow.

  (4) Proceed as in Steps 5, 6, and 7 of Method I.

- Method III

  (1) Position shirt and work onto arm as in Steps 1, 2, and 3 of Method I.

  (2) Position sleeve on affected side up to the shoulder.

  (3) With good hand, grasp the tip of the collar which will be on affected side, lean forward, then bring arm over the back of head to position on unaffected side of body. This eliminates reaching behind your head to fumble for the part of garment you are unable to see.

  (4) Put good arm into the armhole. It is generally better to direct arm outward and up.

  (5) Adjust and button as in Steps 6 and 7 of Method I.

Procedure for removing —

- Method I (Preferred Method)

  (1) Unbutton garment.

  (2) Lean forward and make sure garment is free in the back.

  (3) With good arm, gather the material up in back of neck (or take hold of collar).

  (4) Remove shirt first from good arm and then from affected arm.

- Method II

  (1) Unbutton garment.

  (2) With good hand, throw shirt back off shoulder on both sides, and pull down on cuff on unaffected side with hand. Work sleeve off by intermittently shrugging shoulder and pulling down on cuff.

  (3) Lean forward; bring shirt across back and remove from affected arm.

  NOTE: Cuff on unaffected side may be fastened by using one of the following methods —

  (1) Button cuff before putting garment on. If cuff is too small to thrust hand through after being buttoned, sew button on with elastic thread.

  (2) Button cuff with buttonhook attached to table with suction cup.

  (3) Sew small pieces of Velcro to insides of cuff and press together by rolling arm.

Pullover Shirts

Procedure for putting on —

- **Method I**

(1) Position shirt on lap, bottom toward chest and label facing down.

(2) With good hand, roll up bottom edge of shirt back all the way up to the sleeve on affected side.

(3 Position sleeve opening as large as possible. Using good hand, place affected arm into sleeve opening and pull shirt up onto arm past the elbow.

(4) Insert good arm into sleeve.

(5) Adjust shirt on involved side up and onto the shoulder.

(6) Gather shirt back with good hand, lean forward, duck head, and pass shirt over head.

(7) Adjust the shirt.

Procedure for removing —

(1) Starting at top, gather shirt up, lean forward, duck head and pull forward over head.

(2) Remove from good arm and then from affected arm.

Trousers (Method can be adapted for shorts or women's underwear.)

NOTE: In any dressing activity which involves crossing the hemiplegic leg over the good leg, if there is difficulty in keeping the legs crossed, either place a small stool in front of the chair to put the feet on so the bent knee will be in a higher and more secure position or, if wheelchair is used, place footrest in a down position.

Recommended styles —

Size or two larger than usually worn.

Buttoned fly front (easier to manage than zipper, unless patient can stand in order to fasten top button and zip).

Procedure for putting on —

- **Method I (Sitting position)**

(1) Sit in straight armchair or in wheelchair.

(2) Before crossing leg, to prevent leg from slipping off, position good leg directly in front of midline of body wtih knee flexed to 90° angle. Using good hand, reach forward and grasp ankle of involved leg, or portion of sock around ankle, and lift affected leg over good leg to a crossed position.

(3) Slip trousers onto hemiplegic leg, only up to a position where the foot is completely inside of trouser leg. Do *not* pull up above knee or you will encounter difficulty in inserting unaffected leg.

Trousers—*continued*

(4) Uncross the affected leg by again grasping the ankle or a portion of the sock around the ankle.

(5) Insert unaffected leg and work the trousers up onto hips as far as possible.

(6) If wheelchair is used, place footrests in an up position.

(7) Now stand (if you are able to do so safely) and pull trousers over hips. To prevent trousers from dropping as you stand up, use one of the following methods:

- Place affected hand in trouser pocket.
- Slip one finger on affected side into belt loop.
- If suspenders are used, pull into position over the shoulder before you stand.

(8) Sit down to button the front.

- Method II (Used for patients in wheelchair *only* if brakes are in locked position, or in straight armchair *only* if it is braced against wall. This method is for patients who cannot stand.)

(1) Position trousers on legs as in Steps 1 through 5 in Method I.

(2) Footrests remain in down position. Elevate hips by leaning back against chair and pushing down with good leg. As hips are raised, work the trousers over hips with good hand.

(3) Lower hips back into chair and fasten trousers.

- Method III (Lying position: this method is generally more difficult for the patient. If possible, the bed should be raised so the patient is partially sitting.)

(1) Using good hand, place affected leg in a bent position and crossed over good leg. The good leg may be partially bent to prevent affected leg from slipping.

(2) Position trousers and work onto affected leg first (only to knee). Then uncross leg.

(3) Insert unaffected leg and work trousers up onto hips as far as possible.

(4) With good leg bent, press down with foot and shoulder to lift hips from bed and with good arm pull trousers over hips, or work trousers up over hips by rolling from side to side.

(5) Fasten trousers.

Procedure for removing —

- Method I

(1) In sitting position, unfasten trousers and work down on hips as far as possible.

(2) Stand, letting trousers drop past hips, or work them down past hips.

(3) Cross affected leg over good leg, remove trousers and uncross leg.

(4) Remove trousers from unaffected leg.

- **Method II**

  (1) In sitting position, unfasten trousers and work down on hips as far as possible.

  (2) With footrests in down position, lean back against chair; push down with good leg to elevate hips, and with good arm work trousers down past hips.

  (3) Proceed as in Steps 3 and 4 of Method I.

- **Method III (Lying position)**

  (1) With good leg bent, press down with foot and shoulders to lift hips from bed.

  (2) Work trousers down past hips, remove unaffected leg and then remove affected leg.

Stockings

Procedure for putting on —

- **Method I**

  (1) Sit in straight chair with armrests, or in wheelchair.

  (2) With good leg directly in front of midline of body, cross affected leg over good leg.

  (3) Open the top of stocking by inserting thumb and first two fingers near cuff and spreading fingers apart.

  (4) Work stocking onto your foot, taking care to eliminate all wrinkles.

Short Leg Braces

Procedure for putting on —

- **Method I**

  (1) Sit in straight chair with armrests, or in wheelchair.

  (2) Bring good leg to a point directly in front of midline of body. Cross hemiplegic leg over good leg.

  (3) Pull tongue of shoe up through the laces so it does not push down into shoe as brace is put on.

  (4) Holding the short leg brace by top inside portion of the metal bar with good hand, swing the brace back, and then forward so the heel is between the uprights. Swing shoe far enough forward so your toes can be inserted into shoe. Still holding onto upright bar of brace, turn the shoe inward so your toes will go in at a slight angle to prevent catching your toes on the sides of the shoe.

  (5) Pull brace up onto leg as far as possible. If difficulty is encountered in getting the brace up far enough on leg, elevate hemiplegic leg to a higher position by pulling up farther on the crossbar, making it easier to slip your foot into the shoe. The brace can now be held in position by pressure against the crossbar between affected leg and unaffected leg, while you insert a shoehorn flat and directly behind your heel. If difficulty is encountered in keeping the brace on while inserting the shoehorn, elevate hemiplegic leg by pulling up on crossbar to a position where ankle of hemiplegic leg is resting against knee of good leg, with uprights on each side.

(6) Holding affected leg upright, uncross it and position it at 90° (right) angle to the floor. The shoehorn is now in a position where the heel of affected leg is pressing on it. Intermittently, direct pressure downward on the knee and move the shoehorn back and forth with unaffected hand until foot slips into the shoe.
(7) Fasten laces and straps. Use elastic shoelaces or one of the many methods of tying a bow with one hand.

Procedure for removing —

- **Method I**
  (1) Cross affected leg over good leg.
  (2) Unfasten straps and laces.
  (3) Push down on upright until shoe is off your foot.
- **Method II**
  (1) Unfasten straps and laces.
  (2) Straighten affected leg by putting good foot behind heel of shoe and pushing forward.
  (3) Push down on upright with hand and at the same time push forward on heel of brace shoe with unaffected foot.

Necktie: Ready-tied bow ties are convenient; however, if a conventional tie is worn the following procedure should be used.

Procedure for putting on —

(1) Place collar of shirt in up position and bring necktie around neck and adjust so that the smaller (under) portion is the length desired when the tie has been tied.
(2) Since difficulty is encountered in stabilizing one end of the tie while the good hand is used to loop the opposite side around it, fasten the under (small) end to the shirt front with a tie clasp.
(3) Loop the long end around the short end (one complete loop) and bring up between the "V" at the neck. Then bring tip down through the loop at the front and adjust tie.

Brassieres

Procedure for putting on —

- **Method I**
  (1) Hook brassiere in front and slip it around to the back (at waistline level).
  (2) Place affected arm through the shoulder strap and then place unaffected arm through the other shoulder strap.
  Comments: Elastic may be added to the straps for ease in slipping off and on.

FEEDING

Recommended equipment —

- A rocker-type knife is helpful in cutting foods.

GROOMING AND HYGIENE

Shaving

Recommended equipment —

- Electric razors have proven the most satisfactory.
- If patient insists on shaving with a safety razor, a trial run should be made without using a razor blade. To hold the skin taut, the patient puffs out his cheek.

Nail Care

Recommended equipment —

- Nail file or emery board, taped to the table.

BATHING

- Since most patients have difficulty sitting down into tub, an adapted chair with backrest and cut down legs attached to slats may be placed in the tub. In this case, a spray hose is used for bathing.
- Long handled bath sponges with a place in the sponges for soap permit the patient to reach nearly all parts of his body when bathing.
- Bath mitt with soap pocket may be useful for bathing.
- Suction cups attached to hand brushes are recommended to enable patient to scrub nails and hand on unaffected side. These are also useful for washing dentures.
- Toilet articles packaged under pressure or in plastic bottles, such as spray deodorant, are easier and safer to use than those in screw top glass jars.

Appendix

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RESOURCE MATERIAL FOR NURSING HOME STAFF

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